PROVEN PERFORMANCE

Customers in over 60 countries and in diverse markets and sectors.

Kinco (world map with multiple "Kinco" location markers)

Kinco

Product Catalog

➡ Kinco General Catalog

- HMI
- Servo System
- Stepper System
- MC
- PLC
- VFD

Automation Solutions for Global Customers

Kinco® Automation

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Contents

About Kinco

Shanghai Kinco Automation Co., Ltd. specializes in the research, development, production, sales and technical services of industrial automation products, providing integrated solutions for industrial automation equipment manufacturers. In addition to domestic sales, the company's products are also sold to Turkey, India, Italy, Germany. And other countries and regions, is China's leading supplier of machine automation solutions.

The company's main products include industrial human-machine interface, servo system, stepper system, programmable logic controller, low-voltage inverter, widely used in textile machinery, packaging machinery, logistics machinery, industrial robots, medical equipment, electronic manufacturing equipment, building materials machinery, HVAC equipment, and other automation equipment. The company's industrial HMI product market share has maintained a leading position among local brand manufacturers for many years.

The company implements the total quality management from R&D, production to sales in strict accordance with the requirements of ISO9001 quality system, and guarantees rapid response to customer needs in the form of project management system.

HMI

MT4000 series' first product show in market in 2007 year. From that on, more than million products have sold on 40 countries, area, and service in many kind of industry around the world. It become the classic work of HMI which with Linux platform. In new era, we continue to manufacturing boutique, inheriting more than 10 years of professional human-machine development experience, absorbing the latest technological achievements of the semiconductor industry, continuing to innovate, launching a new generation of industrial human-machine interface GREEN series.

- GREEN series
- MT4000 series
- Text series
- Dedicated series

Controller

Kinco's high-performance motion controller, derived from German technology, combined with smart terminals and other products to provide convenience service for intelligent manufacturing.

- KR Robot controller series

PLC

Kinco's high-quality programmable controllers are unique in the fierce PLC market, and have won the recognition of low-end and mid-end customers with excellent cost performance and simple and practical functions.

- K2 series   - KW series
- K5 series   - HP series
- KS series   - I/O extension module

Kinco has all kinds of automation products including HMI, PLC, servo driver and bus protocol conversion bridge, I/O expansion module, which own fieldbus communication capabilities, integrated Ethernet, CANopen, Profibus ability.

Servo System

Kinco servo system originates from German high-precision motor control technique. Kinco has 20 years servo developing & application experience, complete & abundant production line and stable&reliable product quality, which can satisfy with standard and non-standard requirement of each industry application.

Can drive rotate servo motors, linear motors, direct drive motors and etc.

Widely applied in logistics AGC, 3C, medicine, new energy, robotics and etc.

Incremental, magnetoelectric, communication and single/multi-turn absolute encoder (direct plugging or aviation plugging optional) can be installed in Kinco servo motors.

Stepper System

FM series field bus stepper driver is based on servo technology, with compact size, better performance and programmable I/O port setting. It support lots of bus control including pulse, MODBUS, CANopen and EtherCAT.

CM series stepper driver is based on new generation stepper control technology with compact size (save installation space) and better performance.

2&3-phase hybrid motor covers 2-phase (42~130) motor and 3-phase (57, 85) motor.

VFD

Kinco vector VFD undertakes the company concept of "Provide high quality, high performance, high stability products", it is a high performance vector VFD.

- FV100 series
- CV100 series
- CV20 series
- EC series Electric forklift driver
- Electric logistics vehicle driver

Kinco Shanghai   Kinco Shenzhen   JAT Kinco Shenzhen   Kinavo Changzhou

GREEN Series
New generation of industrial HMI

Green series with a new generation of
free configuration software: **Kinco DTools**

MT4000
Standard human machine interface

The MT4000 series of human-machine interface products
use a 32-bit RISC CPU and a streamlined Linux kernel.

Focus on product and make high quality HMI

Green series HMI is the newest industrial man-machine interface launched by Kinco. It adopt new architecture design,
and rigorous craft, that makes itself the high quality HMI standard. Green series HMI use mainly current CPU.

Powerful hardware and software, upgrades are more comprehensive

Structure	Material	Color	Core	CPU	Memory
New Structure Exquisite fuselage	Rigidity and intension promoted, heat resistance promoted.	Display color increase to 16.7M color (except for 15 inch model)	Update core version more stable	Using industrial grade main frequency 792MHz	DDR3 capacity update to 128M

GREEN Series contain three subseries:

GH series ■ Promotional type
4.3" to 17"

G series* ■ Standard type
7" and 10"

GL series ■ Economy type
3" to 15"

- 4 serial port (Except 4.3"), Ethernet
- Standard USB Host port, USB slave port
- Built-in isolated power,
  isolated serial port (Ethernet model)
- Main board Three-denfence treatment

- 3 serial port, Ethernet
- Standard USB Host, USB Slave port
- Built-in isolated power

- 2 series port, Ethernet
- Standard USB Host,
  USB slave port (Except 4.3" models)

■ Main technical parameters of the product

GH series	GH043/GH043E		GH070/GH070E			GH104E		GH150E
G series				G070/G070E/G070E-CAN				
GL series		GL043		GL070/GL070E	GL100/GL100E		GL104E	GL150E
Display size	4.3"	4.3"	7"	7"	10.1"	10.4"	10.4"	15"
Resolution	480×272	480×272	800×480	800×480	1024×600	640×480	640×480	1024×768
Backlight	LED	LED	LED	LED	LED	LED	LED	LED
Operating temperature	-10~55℃	0~50℃	-10~55℃	0~50℃	0~50℃	-10~55℃	0~50℃	-10~55℃
Installation hole size	146×81 (mm)	119×93 (mm)	194×113 (mm)	192×138 (mm)	261×180 (mm)	299×219 (mm)	299×219 (mm)	383×283 (mm)
Configuration software	Kinco DTools V3.2 and above version							

■ Product description

The MT4000 series of human-machine interface products use a 32-bit
RISC CPU and a streamlined Linux kernel. It can display a variety of true
color graphics formats, and its superior processing speed and rich
software features can meet the requirements of most users.It supports
direct communication with most PLC and makes it easy to exchange
data with connected devices.MT4000 series products have direct online
simulation, indirect online simulation, large-capacity user configuration
program storage space, macro-compatible with standard C language
and other functions that meet customer needs, and can quickly and
effectively complete data acquisition, calculation, control and other
functions.

■ Product feature

1. 65536 TFT true color display, BMP/JPG/GIF format picture import is
supported.

2. High-performance 32-bit up to 800MHz RISC CPU, fast processing
capability guarantees higher efficiency.

3. 4.3~15 Inch.

4. MT4000E series configure 10M/100M adaptive Ethernet.

5. Powerful Kinco HMIware software, support VNC remote, Timer, C
language macro script, and so on.

MT4230T(E)	MT4210T MT4220TE	MT4300C(E)	MT4434T(E)	MT4414T(E) MT4414TE-CAN	MT4404T MT4424TE	MT4403T(E)

■ Main technical parameters of the product

Model		MT4210T			MT4414T(E)	MT4404T	
	MT4230T(E)	MT4220TE	MT4300C(E)	MT4434T(E)	MT4414TE-CAN	MT4424TE	MT4403T(E)
Display size	4.3"(16:9)	4.3"(16:9)	5.6"	7" (16:9)	7" (16:9)	7" (16:9)	8"
Resolution	480×272	480×272	320×234	800×480	800×480	800×480	800×600
Backlight	LED	LED	LED	LED	LED	LED	LED
Operating temperature	0~50℃	-20~55℃	0~50℃	0~50℃	0~50℃	-10~55℃	-10~55℃
Installation hole size	119×93 (mm)	146×81 (mm)	192×138 (mm)	192×138 (mm)	192×138 (mm)	194×113 (mm)	224×161 (mm)
Remark	All the HMI passed CE authentication; MT4210T, MT4424TE passed UL certification						

MT4532T(E)   MT4512T(E)   MT4513T(E) MT4523T(E)   MT4620TE   MT4720TE

Industry Custom
Special HMI

MT4000R
No front cover and Rear mounted

- R series take rear mounted, could perfectly suit the equipment surface.
- R series USB slave port use MicroUSB port.
- The ER means HMI with Ethernet port, and the COM1(RS485-2W) is terminal type.

■ Main technical parameters of the product

Model			MT4513T(E)		
	MT4532T(E)	MT4512T(E)	MT4523T(E)	MT4620TE	MT4720TE
Display size	10.1"(16:9)	10.1"(16:9)	10.4"	12.1"	15"
Resolution	1024×600	800×480	800×600	800×600	1024×768
Backlight	LED	LED	LED	LED	LED
Operating temperature	0~50℃	0~50℃	0~50℃	-10~55℃	-10~60℃
Installation hole size	261×180 (mm)	299×219 (mm)	299×219 (mm)	340×250 (mm)	388×295 (mm)
Remark	All the HMI passed CE authentication				

Targeting the needs of the industry

CZ6

CZ10

CZ6
Designed for rugged environment

- Outer shell use high thermostability, high strength, uvioresistant material ensure the best performance when HMI working in the severe environment.
- With wide range temperature LCD,working temperature can be -20℃~60℃.
- Highly shockproof performance.
- Multiple serial ports, CAN port, support CANopen/CANJ1939/ serials port/RS232/RS485.
- Whole body IP65 protection.

CZ10
Customized HMI for vehicle

- Double CAN port designed, support CANOpen/CANJ1939.
- With two serials port expandable, support RS232/RS485/RS422.
- With two video input.
- Back lighting keyboard, easy for night operation.
- With full item metal outer shell, with best cooling and shockproof performance;
- With power supply isolation design, suppress interference to ensure the best working performance.

MD text display
Choice for simple applications

MD214L/MD304L ●

MD204L ●

MD224L ●

F7   F10   SZ7

F7/F10
Whole body IP65 water-proof

- Simplify LINUX kernel, 800MHz CPU.
- Use pen-drive to up/download program easy to use.
- Full item with IP65 water-proof.
- Bracket mounting flexible installation.

SZ7
Hand-held terminal

- Series: SZ7 (Kinco HMIWare software), SZ7(WinCE).
- Basic parameters: 7" TFT, 800*480 pixel , 65536 color.
- Standard configuration: 1 three-selector switch, emergency switch, 10 programmable function keys (could expend to 16 keys), could configure 3 more enable switches in which high requirements of safety;
- Remote control: with hand-held terminal, support 5m/10m/15m long distance operation.
- Easy for installation: support FDMI standard (75 * 75mm) bracket or rack installation.

■ Product Introduction
The MD series programmable text display is a small push-button human-machine interface that can communicate with mainstream PLC on the market.It can be equipped with RTU and alarm list functions, and can be monitored in the form of texts, indicators, etc., to modify the value and status of the PLC internal registers or relays, so that the operator can control the device freely.

■ Product feature
1. 4.3" STN LCD
2. RTU is supported

■ Main technical parameters of the product

Model	MD204L	MD214L	MD224L	MD304L
Display size	4.3"	4.3"	4.3"	4.3"
Resolution	192×64	192×64	192×64	192×64
Function keys	20	19	20	19
Backlight	Yellow-green LED	White LED	Yellow-green LED	White LED
Operating temperature	0~50℃	0~50℃	0~50℃	0~50℃
Installation hole size	165×86 (mm)	165×78 (mm)	165×86 (mm)	165×78 (mm)

■ Main technical parameters of the product

Model		MT4070R	MT4100R					
	MT4043R	MT4070ER	MT4100ER	CZ6	CZ10	F7	F10	SZ7
Display size	4.3"	7"	10 1"	5.7"	10.4"	7"(16:9)	10.1"	7"
Resolution	480×272	800×480	1024×600	640×480	640×480	800×480	1280×800	800×480
Backlight	LED	LED	LED	LED	LED	LED	LED	LED
Operating temperature	0~50℃	0~50℃	0~50℃	-20~60℃	-20~70℃	0~50℃	0~50℃	0~50℃
Installation hole size	107.2×68.9(mm)	166×101 (mm)	238×148 (mm)	171×125 (mm)	281×207 (mm)	Bracket mounting	Bracket mounting	Bracket/Hang mounting
Degree of protection	-	-	-	IP65 (Whole machine)	IP65 (Front panel)	IP65 (Whole machine)	IP65 (Whole machine)	IP65 (Front panel)

CD/FD3 Series

Modbus CANopen® EtherCAT.

Kinco CD/FD3 series AC servo system

Product model：	CD&FD413/423/CD433*[1]	CD&FD613*[1]/623*[1]
Product power：	50W~2000W	1000W~3000W
Power supply voltage：	1-phase/3-phase 200~240VAC	3-phase 380~415VAC

■ Main characteristics

- CD3 series support pulse, analog control.
- FD3 series support MODBUS, CANopen and EtherCAT control.
- Support EASY TUNE auto-tuning function. Can satisfy with most of applications' requirements with simple setting in system stiffness.
- Support dynamic brake function control.
- Support any frequency division output of encoder.
- Support 4MHz (For maximum) pulse frequency output.
- Support over-voltage protection, over-current protection, motor over-heat and etc.
- Include a built-in brake resistor support over-heat protection.
- Support magnetoelectric single-turn absolute encoder, 16/20 bit multi-turn absolute encoder. Maximum working temperature of encoder is 120 degree.
- All series product conform with CE certification and ROHS environment certification standard.
- Conform with UL certification design standard.*[2]

■ Adaptable industry

- Robotics: SCARA robots, DELTA robots, six-joints robots and etc.
- Package: slitting machine, pillow machine, vertical package machine and etc.
- Machine tool: CNC engraving and milling machine, laser cutting and etc.
- Logistics: Sorting machine, tridimensional warehouse device and etc.
- Other occasions: High response speed and high positioning precision.

*1 Products are developing.
*2 Part of types. Please discuss with local sales director.

CD/FD2S Series

Modbus CANopen® EtherCAT.

Kinco CD/FD2S series AC servo system

Product model：	CD&FD412S/422S/CD432S	CD&FD612S/622S
Product power：	50W~2000W	1000W~3000W
Power supply voltage：	1-phase/3-phase 200~240VAC	3-phase 380~415VAC

■ Main characteristics

- CD2S series support pulse, analog control.
- FD2S series support MODBUS, CANopen and EtherCAT control.
- Support EASY TUNE auto-tuning function. Can satisfy with most of applications' requirements with simple setting in system stiffness.
- Independent motor brake output interface. Can directly drive motor brake.
- 24VDC independent power supply for control. Can keep monitoring servo system state after powering off main power supply.
- Support over-voltage protection, over-current protection, motor over-heat and etc.
- Support incremental encoder, 24 bit (For maximum) absolute encoder. Maximum working temperature of encoder is 120 degree.
- All series product conform with CE certification and ROHS environment certification standard.

■ Adaptable industry

- Robotics: SCARA robots, DELTA robots, six-joints robots and etc.
- Package: slitting machine, pillow machine, vertical package machine and etc.
- Machine tool: CNC engraving and milling machine, laser cutting and etc.
- Logistics: Sorting machine, tridimensional warehouse device and etc.
- Other occasions: High response speed and high positioning precision.

JD Series

Modbus CANopen EtherCAT

Kinco JD series European style high performance CAN bus servo system

Product model：	JD420/430	JD620/630/640/650/660
Product power：	200W~2000W	1500W~7500W
Power supply voltage：	1-phase/3-phase 200~240VAC	3-phase 380~415VAC

■ Main characteristics

- European style servo system terminal design, with no welding, convenient wiring.
- Support MODBUS, CANopen and EtherCAT communication protocol.
- Support master-slave, multiple axises synchronization.
- Support full close-loop control.
- Can set all servo parameters, which set up driver function whatever you want.
- Support high performance required system such as 2-shaft or multi-shaft differential complement, electronic CAM and etc.
- Mechanical vibration suppression function.
- SIL3/Cat.3/PL level safe function (safe torque closes).*
- Product design conform with UL standard, part of products conform with UL verification.
- All series products conform with CE verification and ROHS environment verification standard.

■ Adaptable industry

- Robotics: SCARA robots, DELTA robots, six-joints robots and etc.
- Package: slitting machine, pillow machine, vertical package machine and etc.
- Machine tool: CNC engraving and milling machine, laser cutting, plasma cutting and etc.
- Logistics: Sorting machine, AVG and etc.
- Medical machine: CT, MR hospital bed control and etc.
- Other occasions: High response speed and high positioning precision.

* Part of types. Please discuss with local sales director.

FD4 Series

Modbus CANopen EtherCAT

Kinco FD4 series economic DC servo system

Product model：		
	FD114	Product power: 50W~200W, Power supply voltage: DC24V~70V, rated current 5A
	FD124	Product power: 200W~400W, Power supply voltage: DC24V~70V, rated current 12A
	FD134/FD144*[1]	

■ Main characteristics

- Support pulse, analog control.
- Support encoder signal output, master-slave.
- Support MODBUS, CANopen and EtherCAT communication control. *[2]
- Low-voltage DC power supply, satisfy with requirements of moving car's power and power supply.
- New small-size terminal design, compact size and beautiful appearance.
- 3 times (For maximum) *[3] overload design, increase response speed when car starts/stops.
- Over-current, over-heat, over-voltage and motor over-heat protection(I2T), ensure driving system in a safe state.
- All series products conform with CE verification and ROHS environment verification standard.

■ Adaptable industry

- Logistics robots: Automatic navigation freight robot, multi-shuttle robot, automatic parking robot and etc.
- Logistics device: Sorting machine, tridimensional warehouse device and etc.
- Medical device: small size system.
- Other occasions: High response speed and high positioning precision.

*1 Products are developing
*2 Choose driver type according to different CAN bus requirement
*3 Overload ability is limited by motor and driver setting, Please discuss with local sales director

OD series

Modbus **CANopen** **EtherCAT**

Kinco OD series modularization servo system

Product model :
OD114	Product power: 50W~200W, Power supply voltage: DC24V~70V, Rated current 6A
OD124	Product power: 50W~400W, Power supply voltage: DC24V~70V, Rated current 10A

■ Main characteristics

- Mini size, modularization design, rapidly make up multi-driving cases.
- Embedded design, can make driver embedded into customer control system, achieve integration of drivers and controllers.
- Support pulse, analog control.
- Support encoder signal output, slave-master.
- Support MODBUS, CANopen and EtherCAT communication control.
- Low-voltage DC power supply, satisfy with requirements of moving car's power and power supply.
- New small-size terminal design, compact size and beautiful appearance.
- 3 times (For maximum) * overload design, increase response speed when car starts/stops.
- Over-current, over-heat, over-voltage and motor over-heat protection(I2T), ensure driving system in a safe state.
- All series products conform with CE verification and ROHS environment verification standard.

■ Adaptable industry

- Logistics robots: Automatic navigation freight robot, multi-shuttle robot, automatic parking robot and etc.
- Logistics device: Sorting machine, tridimensional warehouse device and etc.
- Medical device: small size system.
- Other occasions: High response speed and high positioning precision.

* Overload ability is limited by motor and driver setting, Please discuss with local sales director.

FD3 series

Modbus **CANopen** **EtherCAT**

Kinco FD3 series DC servo system

Product model :
FD123	Product power: 50W~400W, Power supply voltage: DC24V~70V, Rate current 10A
FD133	Product power: 400W~750W, Power supply voltage: DC24V~70V, Rated power 20A

■ Main characteristics

- Suppose pulse, analog control.
- Support encoder signal output, slave-master.
- Support MODBUS, CANopen and EtherCAT communication control.
- Up to 16 bit I/O interface.
- Low-voltage DC power supply, satisfy with requirements of moving car's power and power supply.
- Compact design structure, high efficiency, small size, convenient for installation.
- 3 times (For maximum) * overload design, increase response speed when car starts/stops.
- Over-current, over-heat, over-voltage and motor over-heat protection(I2T), ensure driving system in a safe state.
- All series products conform with CE verification and ROHS environment verification standard.

■ Adaptable industry

- Logistics robots: Automatic navigation freight robot, multi-shuttle robot, automatic parking robot and etc.
- Logistics device: Sorting machine, tridimensional warehouse device and etc.
- Medical device: small size system.
- Other occasions: High response speed and high positioning precision.

* Overload ability is limited by motor and driver setting, Please discuss with local sales director.

Servo Motor

Motor flange	Power	Torque	Rated working voltage
40 flange motor	50W, 100W	0.16Nm~0.32Nm	48VDC, 220VAC
60 flange motor	100W, 200W, 300W, 400W, 600W	0.64Nm~2Nm	24VDC, 48VDC, 220VAC
80 flange motor	400W, 750W, 1000W	1.27Nm~3.18Nm	48VDC, 220VAC, 380VAC
110 flange motor	1050W, 1260W, 1570W, 1880W	4Nm~6Nm	48VDC, 220VAC, 380VAC
130 flange motor	1000W, 1500W, 2000W, 3000W	4.8Nm~14.3Nm	48VDC, 220VAC, 380VAC
150 flange motor	2300W, 3000W, 3500W, 3800W	11Nm~18Nm	380VAC
180 flange motor	3500W, 4400W, 5500W, 7500W	27Nm~48Nm	380VAC

■ Motor

SMH series motor		European design, excellent performance, low cogging torque, low temperature rise Can install incremental, communication, single/multi-turn absolute encoder Can match with exported/domestic aviation plug
SMC series motor		High cost-performance ratio, low cogging torque Can install magnetoelectric, incremental, single/multi-turn absolute encoder Can match with outgoing line/domestic aviation plug
SMG series motor		Economic big power motor, high cost-performance ratio Support incremental, absolute encoder Can match with domestic aviation plug
SMS series motor		High performance & compact motor Support single-turn 20 bit and multi-turn 16 bit absolute encoder Can match with outgoing line/domestic aviation plug

Stepper Driver

FM Series Field bus Stepper Driver

Product model:

FM860	Power supply voltage：DC24V~70V，Output current：0.15~8A
FM880	Power supply voltage：DC24V~70V，Output current：0.15~10A

■ Main features

- Support MODBUS, CANopen, EtherCAT protocol.
- Support RS232 communication, parameter settings by KincoStep software.
- Support PLS+DIR, CW/CCW and A+B signal.
- Multiple I/O functions, supporting homing, multi-speed, multi-position and lots of other control mode.
- Support automatic parameter adjustable regulation, self-defined shalf-lock, step smooth filter.
- Over-voltage, under-voltage, overheat and over-current protection.
- 2-phase(42,57,86) and 3-phase(57,85) hybrid stepper motor (drive current is under 6A).

CM Series Stepper Driver

Product model:

2CM525、2CM545、2CM560、2CM860、2CM880、3CM880、CM422B、CM442C、CM880A、CM880B、CM880C

■ Main features

- Support PLS+DIR, CW/CCW.
- Micro-step filter function to make motor run stably at low speed.
- Wide voltage range for signal input, easy to wire.
- Parameter self-adaptive function to make motor run smoothly according to different motor type.
- Compact size to save installation space.

■ Adaptable industry

- Electronic device fabrication, Special machine tool, Industrial robot, Inkjet printing device, Clothing textile device, Logistics device, Medical device, AGV, Package device, etc.

Stepper Motor

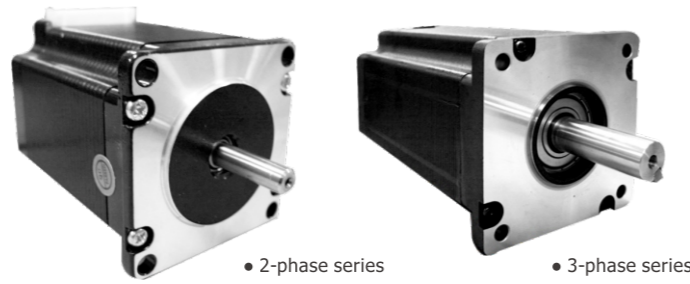• 2-phase series   • 3-phase series

Kinco 2-phase and 3-phase hybrid stepper motors are made of high quality CRS (Cold Rolled Steel) and thermostability permanent magnet. The flange size of 2-phase series ranges from 42mm to 130mm, the 3-phase series are of 57mm and 85mm. Kinco stepper motors feature low temperature rise, high reliability and stability, which make Kinco stepper motors suitable for different industries under different ambient conditions.

■ Motor list

Phase	Size	Product model	Holding torque (N.m)	Phase current (A)		Winding resistance (Ω)	Winding inductance (mH)	Motor inertia (Kg.cm²)	Number of lead wires	Shaft diameter (mm)	Shaft type	Motor length (mm)	Weight (Kg)	Step angle (°)
				Series	Parallel									
2-phase	42	2S42Q-0240	0.22	0.4	0.4	12.5±10%	21±20%	0.054	4	5	No key	40	0.28	1.8
		2S42Q-0348	0.34	0.7	1.4	4.6±10%	4±20%	0.068	8	5	No key	48	0.36	1.8
	57	2S57Q-0541	0.5	0.7	1.5	3.6±10%	4.1±20%	0.135	8	6.35	Platform	41	0.45	1.8
		2S57Q-0956	0.9	1.96	3.92	0.8±10%	1.2±20%	0.3	8	6.35	Platform	56	0.7	1.8
		2S57Q-1376	1.3	1.96	3.92	1±10%	2.1±20%	0.48	8	6.35	Platform	76	1	1.8
		2S57Q-2280	2.2	2.8	5.6	0.8±10%	1.8±20%	0.53	8	8	Platform	80	1.1	1.8
		2S57Q-25B2	2.5	2.9	6	1±10%	1.8±20%	0.8	8	8	Platform	112	1.7	1.8
	86	2S86Q-3465	3.4	6	6	0.3±10%	1.7±20%	1	4	13	Flat key	65	1.7	1.8
		2S86Q-4580	4.5	6	6	0.38±10%	3.5±20%	1.4	4	13	Flat key	80	2.3	1.8
		2S86Q-85B8	8.5	6	6	0.6±10%	6±20%	3.4	4	13	Flat key	118	3.7	1.8
		2S86Q-051F6	12.8	6	6	0.85±10%	10±20%	4	4	15.875	Flat key	156	5.3	1.8
	110	2S110Q-03999	11.7	5.5	5.5	0.7±10%	9.8±20%	5.5	4	19	Flat key	99	5	1.8
		2S110Q-047F0	21	6.5	6.5	0.72±10%	12.8±20%	10.9	4	19	Flat key	150	8.4	1.8
		2S110Q-054K1	30	8	8	0.67±10%	11±20%	16.2	4	19	Flat key	201	11.7	1.8
	130	2S130Y-039M0	27	6	6	0.65±10%	13.8±20%	33.3	4	19	Flat key	165	13	1.8
		2S130Y-063R8	40	7	7	0.9±10%	9.5±20%	48.4	4	19	Flat key	230	19	1.8
3-phase	57	3S57Q-04056	0.9	5.6	5.6	0.7±10%	1.7±20%	0.3	4	6.35	No key	56	0.72	1.2
		3S57Q-04079	1.5	5.8	5.8	1.05±10%	2.4±20%	0.48	4	8	No key	79	1	1.2
3-phase	85	3S85Q-04097	4	5.8	5.8	1.1±10%	4.6±20%	2.32	4	12	Whitney key	97	2.7	1.2
		3S85Q-040F7	7.5	4	4	1.78±10%	17.1±20%	0.44	4	14	Flat key	157±1	5.3	1.2

Motion Controller

Perfect combine with Smart Terminal, Motion Controller and Robot Controller, provide smart manufacture an easy way solution.

■ KR104 robot controller

- Integrate with Scara, Delta, Longmen double drive system, Cartesian coordinates,many kind of robot model.
- Four-axis interpolation control
- 2*CANopen, 1*Ethernet, 2*Serial port communicate port
- With 8DI/ 4DO and two way of encoding signal input port
- Program with C++, script, and DLL

As idea selection of High-end Terminal, Kinco multi-axis motion contronller with powerful functions, fast calculation, easy-use feature. Widely use in Robot, 3C electronic, New energy project, and Smart manufacture area.

Model	
	KR104
Specification	
Power Supply	DC24V
Digital Input/Output	8*DI/4*DO
Analog Input/Output	—
Expand module	—
Encoder input	2 channel
Communicate port	
CANopen port	2 independent isolation interfaces, (1 CANopen master/slave, 1 CANopen slave)
Ethernet port	1 port, could use as program port, 10M/100M, TCP/UDP
EtherCAT port	—
Serial port	1 RS485 port, Modbus
Memory	
Program capacity	—
Data capacity	—
SD card/USB	—
Software	
Program software	C++/labview/DLL
Motion control	Robot motion control library Virtual spindle, gantry synchronization, Max up to 4 axis
Other	
Protection class	IP20
Operating Temp.	0℃~+45℃
Storage Temp.	-20℃~+70℃
Max relative humidity	5%~85%，non-condensing
Size (L*W*H)	162*48*104mm

PLC
Extendable via CANopen

Easy to operate, cost-effective

Kinco K2 Series PLC

K2 series is economic type PLC, not expandable, enhancing performance and reducing cost comparing with K5 series.

■ **Main features**
- USB port for program download, online debugging.
- DIO multiplexing, flexible for various applications.
- Provides 3 high speed counters, and 3 high speed pulse outputs.
- 2 RS485 ports, baud rate up to 187.5bps.
- Compact design, save installation space.

Kinco K5 Series PLC

K5 series PLC provides diverse functions and higher performance. Kinco K5 combines with Kinco HMI, Kinco servo driver and inverter to provide users with easy automation solutions.

■ **Main features:**
- 2 high-speed counters with 12 different operation modes, input pulse frequency up to 20~60kHz.
- Built-in 2 high-speed pulse output channels with frequency up to 200kHz.
- Provide CANopen master and free protocol function by connecting with K541 module.
- 1 RS232 port and at most 2 RS485 ports support Modbus RTU master/slave and free protocol.
- Support edge interrupt, free communication interrupt, time interrupt, high-speed counter interrupt etc.
- Provide software PID control function by function block (default).
- At most 10 expansion modules connectable with up to 184 I/O points to meet most automation applications.
- Provide multiple expansion modules to meet different applications.
- Provide DC24V power supply.

Kinco KS Series PLC

Kinco KS series PLC is a small integrated PLC, which is a high-performance sheet product launched by Kinco. KS series PLC ultra-thin design, rich and reliable functions, the body comes with CAN bus interface, 200K high-speed input / output, rich expansion modules, compact installation and other functions to meet the needs of users of a variety of applications.

■ **Main features:**
- Ultra-thin designed, compact installation, saving space.
- New MCU platform, LD command scanning speed 0.25us.
- The body provides a CAN interface and provides convenient control commands for high-speed multi-axis applications.
- provides 4 high speed counters, and 3 high speed pulse outputs. which frequency could up to 200kHz.
- The expansion module can be used as a MODBUS remote IO port, which is extremely cost-effective.

Kinco KW series PLC

KW series PLC is wireless PLC launched by Kinco for smart factory, it has wireless network port, MicroUSB program, Highperformance input and output port to meet user application requirement.

■ Main features
- LORA, GPRS, WIFI, types of wireless network port.
- Provide cloud server and powerful software (web version, APP, WeChat, etc.) to easily implement local networking, remote data collection, remote monitoring, data analysis, etc.
- Standard CAN interface, high-speed channel, expandable, etc., both data collector and device controller

Kinco HP series integrated PLC

Kinco HP series product combines PLC and HMI, is integrated product with high cost-effective. With powerful functions, high performance and high reliability, the optimized hardware design of HP product save the wirings and communication connection between HMI and PLC. It is easy to use and saves installation space.

■ Main features
- Integrated PLC with HMI, 9*DI/9*DO.
- Program download via Micro USB(2.0), Can be downloaded separately using the same cable.
- 4 High speed pulse counter, 3High speed pulse output, 1 RS485 port, 1*RS485(PORT 1), Max. baudrate 115.2K.
- 65536 colors, high resolution display, built-in USB port, support bulk data storage, HMIware software for programming.

Expansion
I/O Module

■ Kinco PLC module table

Series	Type	Order Number	Description
K2	CPU module	K204ET-16DT	DC20.4-28.8V power supply, DI 8*DC24V, DO 6*Transistor, AI 1*IV, AO 1*IV, USB2.0 program interface, 2*RS485, no expansion.
		K205-16DT	DC20.4-28.8V power supply, DI 6*DC24V, DIO 4*DC24V, DO 6*DC24V, USB2.0 program interface, 2*RS485, no expansion.
		K205-16DR	DC20.4-28.8V power supply, DI 6*DC24V, DIO 4*DC24V, DO 6*Relay, USB2.0 program interface, 2*RS485, no expansion.
		K205EX-22DT	DC20.4-28.8V power supply, DI 8*DC24V, DIO 6*DC24V, DO 8*DC24V, USB2.0 program interface, 2*RS485, no expansion.
		K205EA-18DT	DC20.4-28.8V power supply, DI 8*DC24V, DO 8*DC24V, AI 1*IV, AO 1*IV, USB2.0 program interface, 2*RS485, no expansion.
		K209EA-50DX	DC20.4-28.8V power supply, DI 22*DC24V, DO 8*Transistor+12*Relay, AI 6*IV, AO 2*IV, USB2.0 program interface, 3*serial port (1*RS232, 2*RS485), no expansion.
K5	CPU module	K504EX-14AT	AC85-265V power supply, DI 8*DC24V, DO 6*DC24V, 2*serial port (1*RS232, 1*RS485), up to 4 expansion modules connectable.
		K504EX-14AR	AC85-265V power supply, DI 8*DC24V, DO 6*Relay, 2*serial port (1*RS232, 1*RS485), up to 4 expansion modules connectable.
		K504EX-14DT	DC20.4-28.8V power supply, DI 8*DC24V, DO 6*DC24V, 2*serial port (1*RS232, 1*RS485), up to 4 expansion modules connectable.
		K504EX-14DR	DC20.4-28.8V power supply, DI 8*DC24V, DO 6*Relay, 2*serial port (1*RS232, 1*RS485), up to 4 expansion modules connectable.
		K506-24AT	AC85-265V power supply, DI 14*DC24V, DO 10*DC24V, 3*serial port (1*RS232, 2*RS485), up to 10 expansion modules connectable.
		K506-24AR	AC85-265V power supply, DI 14*DC24V, DO 10*Relay, 3*serial port (1*RS232, 2*RS485), up to 10 expansion modules connectable.
		K506-24DT	DC20.4-28.8V power supply, DI 14*DC24V, DO 10*DC24V, 3*serial port (1*RS232, 2*RS485), up to 10 expansion modules connectable.
		K506-24DR	DC20.4-28.8V power supply, DI 14*DC24V, DO 10*Relay, 3*serial port (1*RS232, 2*RS485), up to 10 expansion modules connectable.
		K506EA-30AT	AC85-265V power supply, DI 14*DC24V, DO 10*DC24V, AI 4*IV, AO 2*IV, 3*serial port (1*RS232, 2*RS485), up to 10 expansion modules connectable.
		K506EA-30DT	DC20.4-28.8V power supply, DI 14*DC24V, DO 10*DC24V, AI 4*IV, AO 2*IV, 3*serial port (1*RS232, 2*RS485), up to 10 expansion modules connectable.
		K508-40AT	AC85-265V power supply, DI 24*DC24V, DO 16*DC24V, 3*serial port (1*RS232, 2*RS485), up to 10 expansion modules connectable.
		K508-40AX	AC85-265V power supply, DI 24*DC24V, DO 4*DC24V+12*Relay, 3*serial port (1*RS232, 2*RS485), up to 10 expansion modules connectable.
		K508-40AR	AC85-265V power supply, DI 24*DC24V, DO 16*Relay, 3*serial port (1*RS232, 2*RS485), up to 10 expansion modules connectable.
		K508-40DT	DC20.4-28.8V power supply, DI 24*DC24V, DO 16*DC24V, 3*serial port (1*RS232, 2*RS485), up to 10 expansion modules connectable.
		K508-40DR	DC20.4-28.8V power supply, DI 24*DC24V, DO 16*Relay, 3*serial port (1*RS232, 2*RS485), up to 10 expansion modules connectable.
	Expension I/O module	K521-08DX	DI 8*DC24V
		K521-16DX	DI 16*DC24V
		K522-08XR	DO 8*Relay
		K522-16XR	DO 16*Relay
		K522-08DT	DO 8*DC24V
		K522-16DT	DO 16*DC24V
		K523-16DR	DI 8*DC24V, DO 8*Relay
		K523-08DR	DI 4*DC24V, DO 4*Relay
		K523-16DT	DI 8*DC24V, DO 8*DC24V
		K523-08DT	DI 4*DC24V, DO 4*DC24V
		K531-04IV	4 analog input channels, 4-20mA/1-5V/0-20mA/0-10V
		K531-04RD	Pt100, Pt1000, Cu50, Resistor
		K531-04TC	4 thermocouple input channels, internal/external compensation selectable, J type, K type, E type, S type
		K532-02IV	2 analog output channels, 4-20mA/1-5V/0-20mA/0-10V
		K533-04IV	2 analog input channels, 4-20mA/1-5V/0-20mA/0-10V; 2 analog output channels, 4-20mA/1-5V/0-20mA/0-10V
	Function module	K541	CAN communication expansion module, supports CANopen master and CAN free protocol
	Power module	K580	Expansion power supplier module, Voltage:AC85~265V, Output rated current: 5V 1A/24V 250mA
KS	CPU module	KS105-16DT	DC20.4-28.8V power supply, DI 8*DC24V, DO 8*DC24V, 2*serial port（1*RS232, 1*RS485）, connectable expansion module.
		KS105C1-16DT	DC20.4-28.8V power supply, DI 8*DC24V, DO 8*DC24V, 2*serial port（1*RS232, 1*RS485）, 1*CANbus interface, only connect to the CANbus extension module
		KS105C2-16DT	DC20.4-28.8V power supply, DI 8*DC24V, DO 8*DC24V, 2*serial port（1*RS232, 1*RS485）, 2*CANbus interface, connectable expansion module.
	Expension I/O module	KS122-12XR	DC20.4-28.8V power supply, DO 12*Relay, It can be used as Modbus slave station.
		KS123-14DR	DC20.4-28.8V power supply, DI 8*DC24V, DO 6*Relay, It can be used as Modbus slave station.
		KS133-06IV	DC20.4-28.8V power supply, 4 analog input channels/2 analog output channels, selectable 4-20mA/1-5V/0-20mA/0-10V, It can be used as Modbus slave station.
HP	CPU module	HP043-20DT	DC20.4-28.8V power supply, DI 9*DC24V, DO 9*DC24V, AI 2*IV, USB2.0 program interface, 1*RS485, no expansion. Touch screen, 4.3", 16:9 TFT, 64K color, 480*272, 1*USB HOST.
KW	CPU module	KW103-12DT-LoRa	DC20.4-28.8V power supply, DI 8*DC24V, DO 4*DC24V, 2*serial port（1*RS232 1*RS485）, 1*CANbus interface, 1*USB, LoRa wireless network, connectable expansion module.
		KW101-06DT-GPRS	DC20.4-28.8V power supply, DI 6*DC24V, 2*serial port（1*RS232 1*RS485）, 1*CANbus interface, 1*USB, GPRS network, connectable expansion module.
	Gateway	WX1-WIFI2COM	DC20.4-28.8V power supply, 1*serial port（RS232 or RS485), 1*WiFi，WiFi and serial port passthrough module

Note: CPU modules with relay output do not support pulse output (The last letter of order No. is "R", for example K506-24AR).

VFD
High-performance vector VFD

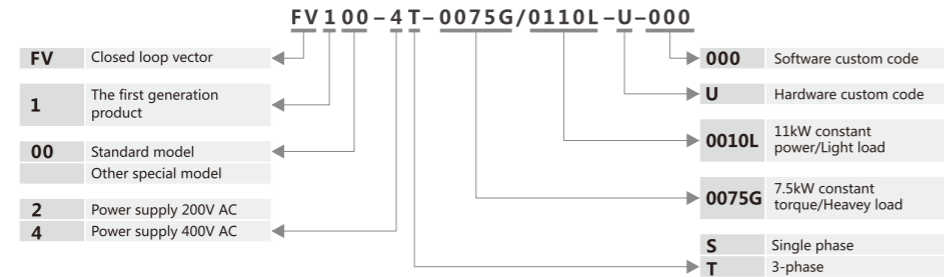- ● **FV100 Series**   ● CV100 Series   ● CV20 Series

FV100 series VFD

FV100, power range：400W~400kW（More power can be customized）.

■ Main features:

- Excellent Performance.
- All series support RS485 Communication, support CAN bus communication.
- Rapid response for custom products and can be custom made easily.
- Over-current protection, speed-loss protection, never tripping function; four quadrants max output torque limit function.

■ Selection Guide:

FV 1 0 0 – 4 T – 0 0 7 5 G / 0 1 1 0 L – U – 0 0 0

FV	Closed loop vector
1	The first generation product
00	Standard model / Other special model
2	Power supply 200V AC
4	Power supply 400V AC

000	Software custom code
U	Hardware custom code
0010L	11kW constant power/Light load
0075G	7.5kW constant torque/Heavey load
S	Single phase
T	3-phase

■ General Product Series

FV100-2S-□□□□G   Single phase 220V AC constant torque VFD

FV100-2S-□□□□G		0004	0007	0015	0022	0037	0055	0075	0110	0150	0185	0220
The power of suitable motor (kW)		0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
Input	Rated voltage / frequency	Single phase 200V~240V，50/60Hz										
	Allowable voltage range	180~260V, Voltage unbalancedness：<3%, frequency：±5%										
	Rated current (A)	5.3	8.2	14.0	23.0	32.0	40.0	45.0	70.0	90.0	110.0	125.0
Output	Voltage (V)	0 ~ rated input voltage										
	Rated current (A)	2.5	4.0	7.5	10.0	16.0	24.5	30.0	46.0	60.0	75.0	85.0
	Overload capacity	150% 1 minute，180% 10 seconds，200% 0.5 seconds，10 minutes interval (inverse time limit speciality)										
Brake unit		Built-in							Built-in optional			
Protection class		IP20										
Cooling method		Air Cooling Cooling by fan										

FV100-2T-□□□□G   3-phase 220V AC constant torque VFD

FV100-2T-□□□□G		0004	0007	0015	0022	0037	0055	0075	0110	0150	0185	0220
The power of suitable motor (kW)		0.4	0.7	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
Input	Rated voltage / frequency	3-phase 200V~240V，50/60Hz										
	Allowable voltage range	180~260V, Voltage unbalancedness：<3%, frequency：±5%										
	Rated current (A)	3.2	6.3	9.0	15.0	22.0	30.0	35.0	50.0	63.0	80.0	87.0
Output	Voltage (V)	0 ~ rated input voltage										
	Rated current (A)	2.5	4.0	7.5	10.0	16.0	24.5	30.0	46.0	60.0	75.0	85.0
	Overload capacity	150% 1 minute，180% 10 seconds										
Brake unit		Built-in							Built-in optional			
Protection class		IP20										
Cooling method		Cooling by fan										

■ General Product Series

FV100-4T-□□□□G   3-phase 380V AC constant torque VFD

FV100-4T-□□□□G		0007	0015	0022	0037	0055	0075	0110	0150	0185	0220	0300	0370	0450	0550
The power of suitable motor (kW)		0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55
Input	Rated voltage / frequency	3-phase 380V~440V, 50/60Hz													
	Allowable voltage range	320V~460V, Voltage unbalancedness：<3%, frequency：±5%													
	Rated current (A)	3.4	5.0	5.8	10.5	14.5	20.5	26.0	35.0	38.5	46.5	62.0	76.0	92.0	113.0
Output	Voltage (V)	0 ~ rated input voltage													
	Rated current (A)	2.3	3.7	5.5	8.8	13.0	17.0	25.0	32.0	37.0	45.0	60.0	75.0	90.0	110.0
	Overload capacity	150% 1 minute，180% 10 seconds													
Brake unit		Built-in								Built-in optional					External
Protection class		IP20													
Cooling method		Air Cooling Cooling by fan													

FV100-4T-□□□□G		0750	0900	1100	1320	1600	1850*	2000*	2200*	2500*	2800*	3150*	3550*	4000*
The power of suitable motor (kW)		75	90	110	132	160	185	200	220	250	280	315	355	400
Input	Rated voltage / frequency	3-phase 380V~440V, 50/60Hz												
	Allowable voltage range	320V~460V, Voltage unbalancedness：<3%, frequency：±5%												
	Rated current (A)	157.0	180.0	214.0	256.0	282.0	326.0	352.0	385.0	437.0	491.0	580.0	624.0	670.0
Output	Voltage (V)	0 ~ rated input voltage												
	Rated current (A)	152.0	176.0	210.0	253.0	304.0	355.0	380.0	426.0	500.0	540.0	600.0	700.0	780.0
	Overload capacity	150% 1 minute，180% 10 seconds												
Brake unit		External brake unit												
Protection class		IP20												
Cooling method		Cooling by fan												

* External DC reactor has been equipped for 185kW and above of "G" models.

FV100-4T-□□□□L   3-phase 380V AC variable torque VFD

FV100-4T-□□□□L		0015	0022	0037	0055	0075	0110	0150	0185	0220	0300	0370	0450	0550
The power of suitable motor (kW)		1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55
Input	Rated voltage / frequency	3-phase 380V~440V, 50/60Hz												
	Allowable voltage range	320V~460V, Voltage unbalancedness：<3%, frequency：±5%												
	Rated current (A)	5.0	5.8	10.5	14.5	20.5	26.0	35.0	38.5	46.5	62.0	76.0	92.0	113.0
Output	Voltage (V)	0 ~ rated input voltage												
	Rated current (A)	3.7	5.5	8.8	13.0	17.0	25.0	32.0	37.0	45.0	60.0	75.0	90.0	110.0
	Overload capacity	110% 1 minute，150% 1 seconds												
Brake unit		Built-in									Built-in optional			
Protection class		IP20												
Cooling method		Air Cooling Cooling by fan												

FV100-4T-□□□□L		0750	0900	1100	1320	1600	1850	2000*	2200*	2500*	2800*	3150*	3550*	4000*	4500*
The power of suitable motor (kW)		75	90	110	132	160	185	200	220	250	280	315	355	400	450
Input	Rated voltage / frequency	3-phase 380V~440V, 50/60Hz													
	Allowable voltage range	320V~460V, Voltage unbalancedness：<3%, frequency：±5%													
	Rated current (A)	157.0	180.0	214.0	256.0	282.0	326.0	352.0	385.0	437.0	491.0	580.0	624.0	670.0	792.0
Output	Voltage (V)	0 ~ rated input voltage													
	Rated current (A)	152.0	176.0	210.0	253.0	304.0	355.0	380.0	426.0	500.0	540.0	600.0	700.0	780.0	830.0
	Overload capacity	110% 1 minute，150% 1 seconds													
Brake unit		External brake unit													
Protection class		IP20													
Cooling method		Cooling by fan													

* External DC reactor has been equipped for 185kW and above of "L" models.

VFD
High-performance vector VFD

● FV100 Series ● **CV100 Series** ● CV20 Series

VFD
High-performance vector VFD

● FV100 Series ● CV100 Series ● **CV20 Series**

CV100 Series VFD

CV100 series is mini type VFD, compact design, V/F control, power range: 400W~7.5kW.

■ **Main features**
- Control mode: V/F control;
- Carrier frequency up to 15kHz;
- Auto torque boost and slip compensation function;
- Built-in PID control;
- Standard equipped Modbus (RS485 baud rate up to 38400bps);
- Sleep/wake up function.

CV20 Series VFD

■ **Main Features**
- Output frequency 0~300Hz
- V/F control and setable V/F curves
- Carrier frequency up to 6kHz
- Auto torque boost and auto slip compensation function
- Standard equiped Modbus(RS485 baud rate up to 19200bps)

■ **CV100 Specification**

Model	G : constant torque L : variable torque	CV100-2S-□□□□G						CV100-4T-□□□□G (L)						
		0002G	0004G	0007G	0015G	0022G	0037G	0007G	0015□	0022□	0037□	0055□	0075□	0110L
The power of suitable motor (kW)		0.2	0.4	0.75	1.5	2.2	3.7	0.75	1.5	2.2	3.7	5.5	7.5	11
Input	Rated voltage / frequency	Single phase 200V~240V, 50/60Hz						3-phase 380V~440V, 50/60Hz						
	Allowable voltage range	180V~260V, Voltage unbalancedness：<3%, frequency：±5%						320V~460V, Voltage unbalancedness：<3%, frequency：±5%						
	Rated current (A)	2.3	5.3	8.2	14.0	23.0	32.0	3.4	5.0	5.8	10.5	14.5	20.5	26.0
Output	Voltage (V)	0 ~ rated input voltage						0 ~ rated input voltage						
	Rated current (A)	1.3	2.5	4.0	7.5	10.0	16.0	2.3	3.7	5.5	8.8	13.0	17.0	25.0
	Overload capacity	150% 1 minute , 180% 10 seconds												
Brake unit		Built-in												
Protection class		IP20												
Cooling method		Air cooling, cooling by fan, with fan control												

Notes：0015□~0075□，where "□" stands for "G" or "L".

■ **CV20 Specification**

Model		CV20-2S-0004G	CV20-2S-0007G	CV20-2S-0015G	CV20-4T-0007G	CV20-4T-0015G	CV20-4T-0022G
The power of suitable motor (kW)		0.4	0.75	1.5	0.75	1.5	2.2
Input	Rated voltage / frequency	Single phase 200V~240V, 50/60Hz			3-phase 380V~440V, 50/60Hz		
	Allowable voltage range	180V~260V, Voltage unbalancedness：<3%, frequency：±5%			320V~460V, Voltage unbalancedness：<3%, frequency：±5%		
	Rated current (A)	5.3	8.2	14.0	3.4	5.0	5.8
Output	Voltage (V)	0 ~ rated input voltage			0 ~ rated input voltage		
	Rated current (A)	2.5	4.0	7.5	2.3	3.7	5.5
	Overload capacity	150% 1 minute , 180% 10 seconds					
Protection class		IP20					
Cooling method		Air cooling					

EC Series Electric Forklift Driver

Efficient walking and steering drive solution

■ Main Feature:
- Walking drive is compatible with synchronous motor resolver, synchronous motor encoder, and asynchronous motor encoder,
  Steering drive is compatible with DC brush motor and Brushless DC motor mode.
- Support terminal communication, CANopen communication.
- Various reserved I/O terminals, to meet system control requirements to the maximum extent.
- Advanced PWM technology to ensure efficient use of batteries, reducing motor energy consumption and loss of torque conversion.
- Modular design, profound product series to meet customization requirements.

■ Model description

E C 3 0 0 1 - 4 0 Z 0 1 1 0 A - I - * *
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Electric Forklift Drive

② Driver generation : 3 (1st generation)
　　　　　　　　　　　5 (2nd generation)

③ Structure : 0 (Sheet metal shell)
　　　　　　　1 (Die-casting shell)
　　　　　　　2 (Injection molded shell)

④ Moduler Type: 00 (No accessories)
　　　　　　　　 01 (Main motor drive)
　　　　　　　　 02 (Steering drive)
　　　　　　　　 03 (Air pump motor drive)
　　　　　　　　 04 (DC to DC inverter)
　　　　　　　　 05 (Main motor drive +steering dirve)

⑤ Rated voltage : 40Z: 400VDC input
　　　　　　　　　(Rounding rule: 366VDC: 37Z)

⑥ Capacity : 0110 (11kW), 1100 (110kW)

⑦ Cooling method : A (Cooling by fan)
　　　　　　　　　 L (Liquid cooling)
　　　　　　　　　 N (Air cooling)

⑧ Power moduler type : I (IGBT)
　　　　　　　　　　　 M (mos)

⑨ Custom code

■ Specification

Model	Rated power	Input voltage	Max.current	Drive type	Suitable motor
EC3001-02Z0022N-M	2.2kW	24V	300A	Walking drive	Synchronous, asynchronous
EC3001-05Z0022N-M	2.2kW	48V	200A	Walking drive	
EC3001-02Z0037N-M	3.7kW	24V	300A	Walking drive	
EC3001-05Z0037N-M	3.7kW	48V	200A	Walking drive	
EC3002-02Z0008N-M	0.8kW	24V	50A	Steering drive	Brush DC, Brushless DC
EC3002-05Z0008N-M	0.8kW	48V	50A	Steering drive	
EC3005-02Z0022N-M	2.2kW	24V	300A	Walking+Steering drive	Synchronous, asynchronous + Brush DC, Brushless DC
EC3005-05Z0022N-M	2.2kW	48V	200A	Walking+Steering drive	
EC3005-02Z0037N-M	3.7kW	24V	300A	Walking+Steering drive	
EC3005-05Z0037N-M	3.7kW	48V	200A	Walking+Steering drive	

Electric Logistics Vehicle Driver

Power range : **2.2kW~120kW**

■ Main Feature:
- Compatible with AC asynchronous, permanent magnet synchronous sine wave and square wave control.
- Software platform modular design, complete diagnostic strategy.
- Wide speed range, excellent weak-magnetic performance, support for background monitoring, CAN communication.
- Control mode: speed sensor vector control, speed sensorless vector control.
- Support encoder: ABZ incremental encoder, rotary transformer.
- Protection and Alarm of over-current, over-voltage, undervoltage, over-temperature, over-load, locked-rotor, Hardware wave-by-wave current limit, Interphase short circuit and Encoder disconnection.
- For car-specific functions:Electronic parking, anti-skid, brake priority, cruise control, anti-theft, feedback brake, reverse speed limit, etc.

■ Model description (same for EC series)

■ Specification

Model	EC3001-07Z0075A-M	EC3001-10Z0135A-M	EC3001-14Z0185A-I
Suitable car	Logistics vehicle	Logistics vehicle	Logistics vehicle
Rated power	7.5kW	13.5kW	18.5kW
Rated input voltage	DC 72V	DC 96V	DC 114V
Input voltage range	DC 60~96V	DC 78~144V	DC 110~220V
Rated output current	60A	140A	140A
Max output current	120A	280A	280A
Output frequency range	0~500Hz	0~500Hz	0~500Hz
Control precision	1:1000 (Encoder mode)	1:1000 (Encoder mode)	1:1000 (Encoder mode)
Protection class	IP65/IP67	IP65/IP67	IP65/IP67
Cooling method	Air-cooled / water-cooled	Air-cooled / water-cooled	Air-cooled / water-cooled
Cutout size (mm)	265*146*140 (mm)	285*166*140 (mm)	285*228*160 (mm)
Operation Temp.	-40℃~85℃	-40℃~85℃	-40℃~85℃

Note: more product information please refer to the Catalog "Electric vehicle motor controller".