

Control the Future by
Innovation and Technology



Low Voltage AC Drive / Servo System /Stepper Drive System / PLC / HMI

**NEW IMAGE
NEW EXPECTATION**

Industrial Automation Integration

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CE SGS RoHS

Simpheonix is a **SUNFAR** brand.

ABOUT Simphoenix

Shenzhen Simphoenix Electric Technology Co., Ltd is a privately operated high-tech enterprise in Shenzhen, as approved by the state and also a software enterprise recognized by Shenzhen Science and Information Bureau.

Established in Feb. 2004, Simphoenix is committed to be a reliable industrial automation product and solution provider in China, Simphoenix is specialized in R&D, manufacturing and sales of automation control products, our main products include low voltage ac drives for general and engineering purpose, servo systems, PLC, HMI and new energy vehicle controller. Through 12 years of development, Simphoenix has developed to be one of the most professional industrial solution provider.

As a national high-tech company we have more than 300 employees, 86 patents and 38 offices by the end of 2015, more over we have a R&D team with numbers of professionals experienced in programing, applied technologies and products.



Dr.YU

The founder of Simphoenix, doctor of engineering graduated from Xi'an Science and Engineering University who has been in industrial automation industry for more than 20 years, he is a major figure and grand master in China.

Platform Advantages

R&D

- Around 50 engineers.
- Invest estimated 4 million USD cost in 2016.
- Masters and doctors accounts for 15%.
- Simulation analysis of drive algorithm and heat design.
- Strong-electricity finite elements analysis platform.



Testing

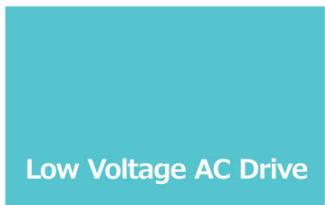
- EMC labs equipped with advanced testing equipment.
- IGBT vibration and LOW / HIGH temperatures.
- Strict testing methods.
- Wish leading electric low voltage stations.



Manufacture Center

- Over 10,000 square meter of production area.
- Annual output value can achieve 85 million USD.
- 6 automatic production lines imported from Germany.
- Flexible manufacturing.
- Reliable quality.
- Fast delivery.

Product Catalog



- V560 Series Large-power Vector AC Drive
- V350 Series Vector AC Drive
- E280 Series General Vector AC Drive
- E380 Series General-purpose AC Drive
- E500 Series Mini-type AC Drive
- DBKU Series Breaking Unit



- CA100 Series Servo Drive
- CM105 Series Servo Motor
- CM102 Series Servo Motor
- CM100 Series Servo Motor
- CA150 Series Servo Drive
- CM155 Series Servo Motor
- CS100-S708AN Digital Stepper Drive
- CS100-S708AH Digital Hybrid Stepper Drive
- SM Series Stepper Motor



- EP1 Series Programmable Logic Controller (PLC)
- EP1 Series IO Expansion Module
- EP1 Series Analog Module



- EM1 Series HMI



V560 Series

V560 Series High-performance Closed-loop Vector AC Drive



V560 series AC drive is based on new vector control platform that built-in control algorithms of closed-loop vector, open-loop vector, V/F control, torque control and V/F separation control, which can meet each kind of complicated control application. It can extend three extension cards, with hundreds of warning functions that will pre-alarm to avoid failure shutdown.

Typical Applications

- Typical Application
- Hoisting
- Machine tool
- Textile machinery
- Food packing
- Cable machinery
- Petrochemical processing
- Washing equipment, Centrifugal machine



Features

- Maximum 75us current closed-loop response cycle, 200% start torque at zero speed.
- Standard 5-digit two-line LED panel display and LCD keypad optional.
- Built-in several system macro and application macro, and it simplifies parameter setting by micro parameter calling.
- Software virtual I/O function with simple parameter setting, it configures virtual I/O flexibly that reduce external interference and simplify wiring.
- Self-balancing of current, power torque or position automatically in the case of multiple motor linkage.
- Hundreds of combinations of torque and revolution.
- Spindle servo and division positioning control.
- Flexible configuration of priorities of frequency or rotate speed setting channels.
- Any non-stored parameter adjusted at field can be saved, abandoned or restored to default value with one key.
- Ergonomic operation panel enables locking and unlocking of keyboard or software.
- Shielding non-used parameters automatically or displaying modified, saved or changed parameters selectively.

Functions

Features	Outage restart, fault reset, start allowed to enable, running allowed to enable, overcurrent suppression, start delay, overvoltage/undervoltage suppression, analog input curve correction, disconnect detection, swing mode, magnetic break, DC break, band type break, wakeup and sleep, temperature detection, analog I/O terminal, spindle orientation, synchronous communication, load dynamic balancing, dual parameter channel, timer, counter, macroparameter, strong starting torque.
Control feature	Close-loop vector control: 200% starting torque at zero speed, speed range 1: 1000. The steady speed precision $\pm 0.02\%$; torque responding time $\leq 5\text{ms}$. Loading-capacity: General-load Loading capacity: 110%--long-term; 150%--60s, 180%--5s. steady-load mode: 105%--long-term; 120%--60s; 150%--1s.
Protection	Power source: three phase supply unbalance protection. Running protection: overcurrent protection, overvoltage protection, over temperature protection, inverter over-load protection, motor over-load protection, output phase lack protection, modular drive protection. Equipment malfunction: current detect anomalies, EEPROM memory unit error, control unit anomalies, motor over-heat, input signal anomalies, temperature measurement circuit error. Motor connection: motor disconnected, motor shree phase unbalance, parameter identification error. Expansion card : expansion card conflict and compatibility test.

Specifications

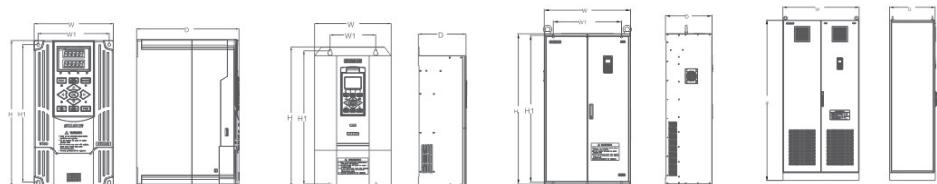
Input voltage, frequency	3AC 380V $\pm 20\%$; 50/60Hz
Power range	3AC 380V $\pm 20\%$; 1.5kW~630kW
Output voltage	3AC 0~380V
Ourput frequency	Low frequency mode: 0.0~300.00Hz; High frequency mode: 0.0~2000.0Hz
Carrier frequency	3 phase vector synthesis: 1.5~12.0kHz; Single phase vector synthesis: 1.5~15.0kHz (along with the power)
Control mode	Close-loop vector control; open-loop vector control; V/F control; V/F separation control
Digital output/input	Standard 6 digital input (DI), extensible Standard 2 digital output (DO), extensible
Pulse input/output	0.0~100.0kHz pulse input 0.0~100.0kHz pulse output (OC signal/standard I/O extension card)
Analog input/output	V560-4T0022G/4T0030P and models below Standard configuration: 1 0~10V voltage input(AI1); 1 0~20mA current input(AI2); 1 0~10V voltage output (optional 0~20mA current output). Optional configuration: 1 0~10V(-10V~10V swappable) voltage input(AI1). V560-4T0030G/4T0040P and models above Standard configuration: 1 0~10V voltage input(AI1); 1 0~20mA current input(AI2); 2 0~10V voltage output (optional 0~20mA current output). Optional I/O: 1 -10V~10V voltage input(AI3)
Protocol	Extensible for MODBUS protocol (standard RS485 interface) and profibus-DP CANopen protocol
Bulit-in	Power above 75kW built-in DC reactor
Braking unit	Power below 22kW are equipped with braking unit
Peripheral interface	DC24V power source, maximum input current: 100mA
Install	Wall mounted (Power above 220kW are available for cabinet)
Protection class	IP20
Certificate	CE

V560 Series

Model Table

Voltage class	Model	Code	General load pattern			Steady load pattern		
			Rated capacity (kVA)	Rated current (A)	Suitable motor (kW)	Rated capacity (kVA)	Rated current (A)	Suitable motor (kW)
Three phase 380V	V560-4T0007G/4T0011P	006M560430007	1.5	2.3	0.75	2.0	3.0	1.1
	V560-4T0011G/4T0015P	006M560430011	2.0	3.0	1.1	2.4	3.7	1.5
	V560-4T0015G/4T0022P	006M560430015	2.4	3.7	1.5	3.6	5.5	2.2
	V560-4T0022G/4T0030P	006M560430022	3.6	5.5	2.2	4.9	7.5	3.0
	V560-4T0030G/4T0040P	006M560430030	4.9	7.5	3.0	6.3	9.5	4.0
	V560-4T0040G/4T0055P	006M560430040	6.3	9.5	4.0	8.6	13.0	5.5
	V560-4T0055G/4T0075P	006M560430055	8.6	13.0	5.5	11.2	17.0	7.5
	V560-4T0075G/4T0090P	006M560430075	11.2	17.0	7.5	13.8	21	9.0
	V560-4T0090G/4T0110P	006M560430090	13.8	21	9.0	16.5	25	11
	V560-4T0110G/4T0150P	006M560430110	16.5	25	11	21.7	33	15
	V560-4T0150G/4T0185P	006M560430150	21.7	33	15	25.7	39	18.5
	V560-4T0185G/4T0220P	006M560430185	25.7	39	18.5	29.6	45	22
	V560-4T0220G/4T0300P	006M560430220	29.6	45	22	39.5	60	30
	V560-4T0300G/4T0370P	006M560430300	39.5	60	30	49.4	75	37
	V560-4T0370G/4T0450P	006M560430370	49.4	75	37	62.5	95	45
	V560-4T0450G/4T0550P	006M560430450	62.5	95	45	75.7	115	55
	V560-4T0550G/4T0750P	006M560430550	75.7	115	55	98.7	150	75
	V560-4T0750G/4T0900P	006M560430750	98.7	150	75	116	176	90
	V560-4T0900G/4T1100P	006M560430900	116	176	90	138	210	110
	V560-4T1100G/4T1320P	006M560431100	138	210	110	171	260	132
	V560-4T1320G/4T1600P	006M560431320	171	260	132	204	310	160
	V560-4T1600G/4T1850P	006M560431600	204	310	160	237	360	185
	V560-4T1850G/4T2000P	006M560431850	237	360	185	253	385	200
	V560-4T2000G/4T2200P	006M560432000	253	385	200	276	420	220
	V560-4T2200G/4T2500P	006M560432200	276	420	220	313	475	250
	V560-4T2500G/4T2800P	006M560432500	313	475	250	352	535	280
	V560-4T2800G/4T3150P	006M560432800	352	535	280	395	600	315
	V560-4T3150G/4T3500P	006M560433150	395	600	315	428	650	350
	V560-4T3500G/4T4000P	006M560433500	428	650	350	480	730	400
	V560-4T4000G/4T4500P	006M560434000	480	730	400	527	800	450
	V560-4T4500G/4T5000P	006M560434500	527	800	450	592	900	500
	V560-4T5000G/4T5600P	006M560435000	592	900	500	658	1000	560
	V560-4T5600G/4T6300P	006M560435600	658	1000	560	737	1120	630
	V560-4T6300G/4T7000P	006M560436300	737	1120	630	823	1250	700

Installation and Dimension Figure



I Class applicable models:
V560-4T0007G/4T0011P~
V560-4T0300G/4T0370P

II Class applicable models:
V560-4T0370G/4T0450P~
V560-4T2000G/4T2200P

III Class applicable models:
V560-4T3500G/4T4000P~
V560-4T3150G/4T3500P

IV Class applicable models:
V560-4T3500G/4T4000P~
V560-4T6300G/4T7000P

Inverter model (Three phase 380V)	W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	Screw
V560-4T0007G/4T0011P	87	97	152	162	130	M4
V560-4T0011G/4T0015P						
V560-4T0015G/4T0022P	95	105	190	200	146	M4
V560-4T0022G/4T0030P						
V560-4T0030G/4T0040P	121	135	234	248	175	M4
V560-4T0040G/4T0055P						
V560-4T0055G/4T0075P	146	160	261	275	179	M5
V560-4T0075G/4T0090P						
V560-4T0090G/4T0110P	169	180	290	305	179	M5
V560-4T0110G/4T0150P						
V560-4T0150G/4T0185P	160	210	387	405	202	M6
V560-4T0185G/4T0220P						
V560-4T0220G/4T0300P	160	250	422	445	216	M8
V560-4T0300G/4T0370P						
V560-4T0370G/4T0450P	180	298	525	564	249	M8
V560-4T0450G/4T0550P						
V560-4T0550G/4T0750P	260	350	564	606	277	M8
V560-4T0750G/4T0900P						
V560-4T0900G/4T1100P	293	400	685	725	271	M10
V560-4T0900G/4T1100P						
V560-4T1100G/4T1320P	360	516	695	735	283	M10
V560-4T1320G/4T1600P						
V560-4T1600G/4T1850P	360	516	725	765	302	M10
V560-4T1850G/4T2000P						
V560-4T2000G/4T2200P	500	640	974	1000	323	M10
V560-4T2200G/4T2500P						
V560-4T2500G/4T2800P	560	730	1073	1100	370	M10
V560-4T2800G/4T3150P						
V560-4T3150G/4T3500P	600	756	1290	1322	410	M10
V560-4T3500G/4T4000P						
V560-4T4000G/4T4500P	—	900	—	2100	600	—
V560-4T4500G/4T5000P						
V560-4T5000G/4T5600P	—	1000	—	2100	600	—
V560-4T5600G/4T6300P						
V560-4T6300G/4T7000P	—	1200	—	2100	600	—

V350 Series

V350 Series Low Power Closed-loop Vector AC Drive



V350 series AC drive is designed based on new software and hardware platform for better satisfaction of marketing applications as machine tool, winding machine, multipoint drive machine, printing, chemical fiber, textile machine etc., featuring outstanding performance, compact structure, complete protection functions, flexible and rich peripheral interfaces. It is integrated closed-loop vector, open-loop vector, V/F control modes, and module design of software and hardware which can be either applied in varied industries or subject to secondary development according to field conditions.

Typical Applications

- Machine tool
- Textile machinery
- Road construction machinery
- Cable machinery
- Petrochemical processing



Features

- High torque at low frequency, and closed-loop vector up to 200% start torque at zero speed; open-loop vector up to 180% start torque at zero speed.
- Standard 5-digit two-line LED panel display and LCD keypad optional.
- Vivid real-time monitor, allowing for monitoring using power, running time, input and output current, voltage failure record etc. in real time.
- The high frequency running mode can be up to 1000Hz.
- Built-in several system macro and application macro, and it simplifies parameter setting by micro parameter calling.
- Hundreds of combinations of torque and revolution.
- Programmable 16 stage speed running, with each stage of running time, acceleration and deceleration time, running direction to be adjusted separately.
- Flexible configuration of priorities of frequency or rotate speed setting channels.
- Software virtual I/O function with simple parameter setting, it configures virtual I/O flexibly that reduce external interference and simplify wiring.
- Abundant warning and protection functions.

Functions

Feature	Magnetic break, DC break, band type break, wakeup and sleep, analog I/O terminal, spindle orientation, synchronous communication, load dynamic balancing, dual parameter channel, timer, counter, macrop arameter, strong starting torque , start allowed to enable, running allowed to enable
Control feature	Close-loop vector control: 200% starting torque at zero speed, speed range1:1000, torque responding time≤5ms Loading-capacity: 110%--long term, 150%--60s; 180%--5s
Protection	Power source: three phase supply unbalance protection Running protection: overcurrent protection, overvoltage protection, over temperature protection, inverter over-load protection, motor over-load protection, output phase lack protection, modular drive protection Equipment malfunction: current detect anomalies, EEPROM memory unit error, control unit anomalies, motor over-heat, input signal anomalies, temperature measurement circuit error Motor connection: motor disconnected; motor three phase unbalance; parameter identification error. Expansion card: expansion card conflict and compatibility test

Specifications

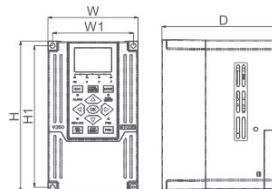
Input voltage, frequency	3AC 380V ±20%, 50/60Hz 1AC 220V ±20%, 50/60Hz
Power range	3AC 380V ±20%, 1.1kW~15kW 1AC 220V ±20%, 0.7kW~2.2kW
Output voltage	3AC 0~380V 3AC 0~220V
Output frequency	Low frequency mode: 0.0~300.00Hz High frequency mode: 0.0~1000.0Hz
Carrier frequency	3 phase vector synthesis: 1.5~10.0KHz Single phase vector synthesis: 1.5~12.5KHz
Control mode	Close-loop vector control; open-loop vector control; V/F control; V/F part control
Digital output/input	V350-4T0030/2S0022 and power below have 5 digital input (DI) and 1 digital output (DO) V350-4T0040 and power above have 6 digital input (DI) and 2 digital output (DO) Can be extended to 16 channels
Pulse input/output	0.0~100.0KHz pulse input 0.0~100.0KHz pulse output (OC signal / standard I/O extension card)
Analog input/output	V350-4T0030/2S0022 and models below Standard configuration: 1 0~10V voltage input(AI1); 1 0~20mA current input(AI2); 1 0~10V voltage output(optional 0~20mA current output). Optional configuration: 1 0~10V(-10V~10Vswappable) voltage input(AI1). V350-4T0040 and models above Standard configuration: 1 0~10V voltage input(AI1); 1 0~20mA current input(AI2); 2 0~10V voltage output(optional 0~20mA current output). Optional I/O: 1 -10V~10V voltage input(AI3)
Communication protocol	V350-4T0030/2S0022 and models below: support MODBUS V350-4T0040 and models above : Support MODBUS / PROFIBUS-DP/CANopen
Braking unit	Standard inner braking unit
Peripheral interface	DC24V power source, maximum input current: 100mA
Protection class	IP20
Certificate	CE

V350 Series

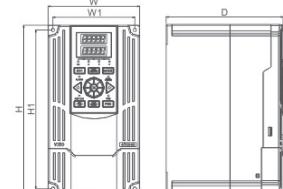
Model Table

Voltage class	Model	Code	Rated capacity (kVA)	Suitable motor (kW)	Rated current (A)
Single phase 220V	V350-2S0007	006M350220007	1.9	0.75	5.0
	V350-2S0011	006M350220011	2.5	1.1	6.5
	V350-2S0015	006M350220015	2.9	1.5	7.5
	V350-2S0022	006M350220022	3.8	2.2	10.0
Three phase 380V	V350-4T0011	006M350430011	2.0	1.1	3.0
	V350-4T0015	006M350430015	2.4	1.5	3.7
	V350-4T0022	006M350430022	3.6	2.2	5.5
	V350-4T0030	006M350430030	4.9	3.0	7.5
	V350-4T0040	006M350430040	6.3	4.0	9.5
	V350-4T0055	006M350430055	8.6	5.5	13.0
	V350-4T0075	006M350430075	11.2	7.5	17.0
	V350-4T0090	006M350430090	13.8	9.0	21
	V350-4T0110	006M350430110	16.5	11	25
	V350-4T0150	006M350430150	21.7	15	33

Installation and Dimension Figure



V350-4T0030/2S0022 and below power range models



V350-4T0040 and above power range models

Inverter model (Three phase 380V)	Inverter model (Single phase 380V)	W1(mm)	W(mm)	H1(mm)	H(mm)	D(mm)	Screw
V350-4T0011	V350-2S0007	87	97	152	162	130	M4
V350-4T0015	V350-2S0011						
V350-4T0022	V350-2S0015	95	105	190	200	145	M4
V350-4T0030	V350-2S0022						
V350-4T0040	—	121	135	234	248	174.5	M4
V350-4T0055	—						
V350-4T0075	—	146	160	261	275	180	M5
V350-4T0090	—						
V350-4T0110	—	169	180	290	305	179	M5
V350-4T0150	—						

E280 Series General Vector AC Drive



E280 is developed on the basis of our E series AC drive which originally launched in 2004. Through field test of more than 1.2 million AC drives and continuous improvement and optimization of four generation products, stability and reliability has become the key character of our E series products.

Typical Applications

- Machine tool
- Textile machinery
- Cable machinery
- Petrochemical processing
- Construction
- Transmission



Features

- Strong torque at low frequency. 200% start torque at 0Hz under VC control, 180% start torque at 0Hz under SVC control.
- Standard 5-digit two-line LED panel display and LCD keypad optional.
- Intuitive real-time monitoring to know nearly hundred kinds of parameters, like usage of electricity, running time, input & output voltage and current, error record etc.
- Built-in several system macro and application macro, and it simplifies parameter setting by micro parameter calling.
- Hundreds of combinations of torque and revolution.
- Programmable 16-segment speed running, independent setting of running time, acceleration & deceleration time and moving direction of each segment.
- Flexible configuration of priorities of frequency or rotate speed setting channels.
- Software virtual I/O function with simple parameter setting, it configures virtual I/O flexibly that reduce external interference and simplify wiring.
- Abundant warning and protection functions.

E280 Series

Functions

Typical Function	Multi-step running	15 frequency / speed running, each running direction, time, acc or dec set independently. 7 process PID set (PID control function cancel or not)
	Built-in PID	Built-in PID controller, able to be used by external equips.
	Awakening sleep	Built-in PID with simple sleep and awakening function
	MODBUS Communication	Standard MODBUS communication protocol (optional), flexible parameter read-write mapping function
	Dynamic Braking	Acting voltage: 650~760V, braking rate: 50~100%
	General Function	Reset after power stop, recovery with failure, motor parameter dynamic / static self-identification, start enable, running enable, start delay, over-current inhibit, over-voltage / low-voltage inhibit, V/F self-defined curve, analog input wave rectification, power-off test, textile machine disturbance (swing frequency) operation
	Communication Linkage Synchronization	It is easy to achieve synchronous drive for several equips with free selection based on current, torque, power to reach linkage balance.
	Overload Dynamic Balance	It can achieve multi-equip's overload dynamic balance (not limit to communication linkage) to reach torque motor characteristics.
	Strong Start Torque	For the load with strong inertia, static friction, it can set super strong start torque for certain time.
	Setting Priority	User can select priority sequence for all kinds of frequency / rotate speed setting channels freely which is suitable for kinds of combined applications.
Unique Function	Setting Combination	Hundreds of setting combination of frequency, rotate speed, torque etc.
	Timer	Built-in 3 timers with 5 kinds of clock and 6 kinds of startup trigger modes Several door control signals and working modes, 7 output signals
	Counter	2 inner counter, 3 counting pulse edge selection, 6 start trigger modes, 7 output signals
	Macro Parameter	Application macro:Easy for setting and partial solidifying several usual parameter groups, simple parameter setting for general applications. System macro:Convenient for switching equip.'s running mode (ex. Switching with high and low frequency running mode), Self-defined partial parameters
	Parameter Debugging	Adjust any non-stock parameters with one button stock or give up and recovery
	Parameter Display	Shield non-use parameter modules automatically, or display revised, stock, changed parameters selectively.
Protection Function	Running Protection	Over-current protection, over-voltage protection, short circuit protection, inverter over-heat protection, inverter overload protection, motor overload protection, output lack of phase protection
	Equip Abnormal	Current check abnormal, EEPROM storage abnormal, control unit abnormal, motor over-heat, temperature collection loop failure
	Motor Connection	Motor non-connection, motor 3 phase parameter unbalance, parameter identification wrong
	Extension Card	Test and protect extension card compatible or conflict

Specifications

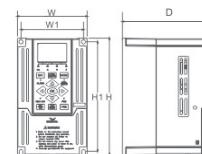
Input and Output	Input Rated Voltage	3AC 380V ±20%;3AC 220V ±20%;
	Input Frequency	50/60 Hz ±20%
	Output Voltage	0 V ~ input rated voltage
	Output Frequency	Low frequency running mode: 0.00~300.00Hz; High frequency running mode: 0.00~400.00Hz;
	Digital Input	E280-4T0040 and below units (extension unable, optional): Standard built-in 5 digital input (DI) E280-4T0055 and above units (extension available): Standard built-in 6 digital input (DI) Extension to 9, one is for high-speed digital input (extension set optional)
	Digital Output	E280-4T0040 and below units: Standard built-in 1 digital output (DO) E280-4T0055 and above units: Standard built-in 2 digital input (DO) Be able to extend 1 high-speed DO output (0~100kHz)
	Pulse Input	0 ~ 100.0kHz pulse input. Connect NPN type OC output (optional)
	Pulse Output	0 ~ 100.0kHz pulse PNP type OC output (optional)
	Analog Input	E280-4T0040 and below units (extension unable, optional): Standard built-in: 0 ~ 10V voltage input (Ai1), 0 ~ 20mA current input (Ai2); E280-4T0055 and above units (extension available): Standard built-in: 0 ~ 10V voltage input (Ai1), 0 ~ 20mA current input (Ai2); Be able to extend 1 AI (-10V~10V dual polarity voltage input);
	Analog Output	E280-4T0040 and below units (extension unable, optional): Standard built-in: 1 0 ~ 10V analog output signal (0 ~ 20mA current output mode optional) E280-4T0055 and above units (extension available): Standard built-in: 2 0 ~ 10V analog output signal (0 ~ 20mA current output mode optional)
Control Characteristics	Contact Output	Standard one set AC 250V/1A normal open, normal contact, able to extend 1-6 sets normal open and normal close contact.
	Control Mode	Closed-loop Vector Control
	Start Torque	0 Speed 200%
	Speed Adjustment Range	1:1000
	Stable Speed Accuracy	±0.02%
	Torque Control Accuracy	±1%
	Torque Responding Time	≤5ms
	Frequency Resolution	Low frequency running mode: 0.01Hz;High frequency running mode: 0.1Hz
	Frequency Accuracy	Low frequency running mode: digital set—0.01Hz, analog set—highest frequency×0.1% High frequency running mode: digital set—0.1Hz, analog set—highest frequency×0.1%
	Overload Capability	G type: 110%--long term; 150%--90s; 180%--2s; P type: 105%--long term;
Performance	Carrier Wave Frequency	Three phase voltage vector combined mode: 1.5~10.0kHz; Two phase voltage vector combined mode: 1.5~12.5kHz; (high frequency mode can be 15kHz)
	Acc. And Dec. Time	0.01~600.00 Sec./0.01~600.00Min.
	Magnetic Flow Braking	By increasing motor magnetic flow (30~120% available), motor can achieve fast decreasing braking.
	DC Braking / Band Brake	Initial frequency of DC braking / bank brake: 0.0~upper frequency, braking / bank brake injecting current 0.0~100.0%
	Start Frequency	0.0~50.0Hz

E280 Series

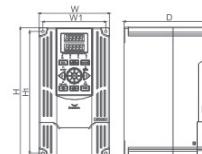
Model Table

Voltage class	Model	Code	General load mode ([F0.15] =0)			Load mode for fan and water pump ([F0.15] =1)		
			Rated capacity (kVA)	Rated current (A)	Suitable motor (kW)	Rated capacity (kVA)	Rated current (A)	Suitable motor (kW)
Three phase 220V	E280-2T0022	000M580230022	3.8	10	2.2	—	—	—
	E280-2T0030	000M580230030	5.3	14	3	—	—	—
	E280-2T0040	000M580230040	6.5	17	4	—	—	—
	E280-2T0055	000M580230055	9.5	25	5.5	—	—	—
	E280-2T0075	000M580230075	12.6	33	7.5	—	—	—
	E280-2T0090	000M580230090	14.9	37	9	—	—	—
	E280-2T0110	000M580230110	17.5	46	11	—	—	—
	E280-2T0150	000M580230150	22.9	60	15	—	—	—
	E280-2T0185	000M580230185	28.6	75	18.5	—	—	—
	E280-2T0220	000M580230220	32.4	85	22	—	—	—
	E280-2T0300	000M580230300	41.9	110	30	—	—	—
	E280-2T0370	000M580230370	51.5	135	37	—	—	—
	E280-2T0450	000M580230450	64.8	170	45	—	—	—
	E280-2T0550	000M580230550	78.1	205	55	—	—	—
Three phase 380V	E280-2T0750	000M580230750	101	265	75	—	—	—
	E280-2T0750	000M580230900	122	320	90	—	—	—
	E280-4T0011G/4T0015P	000M580430011	2.0	3.0	1.1	2.4	3.7	1.5
	E280-4T0015G/4T0022P	000M580430015	2.4	3.7	1.5	3.6	5.5	2.2
	E280-4T0022G/4T0030P	000M580430022	3.6	5.5	2.2	4.9	7.5	3.0
	E280-4T0030G/4T0040P	000M580430030	4.9	7.5	3.0	6.3	9.5	4.0
	E280-4T0040G/4T0055P	000M580430040	6.3	9.5	4.0	8.6	13.0	5.5
	E280-4T0055G/4T0075P	000M580430055	8.6	13.0	5.5	11.2	17.0	7.5
	E280-4T0075G/4T0090P	000M580430075	11.2	17.0	7.5	13.8	21	9.0
	E280-4T0090G/4T0110P	000M580430090	13.8	21	9.0	16.5	25	11
	E280-4T0110G/4T0150P	000M580430110	16.5	25	11	21.7	32	15
	E280-4T0150G/4T0185P	000M580430150	21.7	32	15	25.7	37	18.5
	E280-4T0185G/4T0220P	000M580430185	25.7	37	18.5	29.6	45	22
	E280-4T0220G/4T0300P	000M580430220	29.6	45	22	39.5	60	30
	E280-4T0300G/4T0370P	000M580430300	39.5	60	30	49.4	75	37
	E280-4T0370G/4T0450P	000M580430370	49.4	75	37	62.5	95	45
	E280-4T0450G/4T0550P	000M580430450	62.5	95	45	75.7	115	55
	E280-4T0550G/4T0750P	000M580430550	75.7	115	55	98.7	150	75
	E280-4T0750G/4T0900P	000M580430750	98.7	150	75	116	176	90
	E280-4T0900G/4T1100P	000M580430900	116	176	90	138	210	110
	E280-4T1100G/4T1320P	000M580431100	138	210	110	171	260	132
	E280-4T1320G/4T1600P	000M580431320	171	260	132	204	310	160
	E280-4T1600G/4T1850P	000M580431600	204	310	160	237	360	185
	E280-4T1850G/4T2000P	000M580431850	237	360	185	253	385	200
	E280-4T2000G/4T2200P	000M580432000	253	385	200	276	420	220
	E280-4T2200G/4T2500P	000M580432200	276	420	220	313	475	250
	E280-4T2500G/4T2800P	000M580432500	313	475	250	352	535	280
	E280-4T2800G/4T3150P	000M580432800	352	535	280	395	600	315
	E280-4T3150G/4T3500P	000M580433150	395	600	315	424	645	350

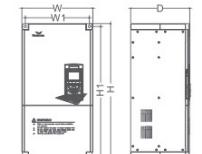
Installation and Dimension Figure



I Class applicable models:
E280-4T0011G/4T0015P~
E280-4T0040G/4T0055P



II Class applicable models:
E280-4T0055G/4T0075P~
E280-4T0090G/4T0110P~
E280-4T0110G/4T0150P~
E280-4T0150G/4T0185P~
E280-4T0185G/4T0220P~
E280-4T0220G/4T0300P~
E280-4T0300G/4T0370P~
E280-4T0370G/4T0450P~
E280-4T0450G/4T0550P~
E280-4T0550G/4T0750P~
E280-4T0750G/4T0900P~
E280-4T0900G/4T1100P~
E280-4T1100G/4T1320P~
E280-4T1320G/4T1600P~
E280-4T1600G/4T1850P~
E280-4T1850G/4T2000P~
E280-4T2000G/4T2200P~
E280-4T2200G/4T2500P~
E280-4T2500G/4T2800P~
E280-4T2800G/4T3150P~
E280-4T3150G/4T3500P



III Class applicable models:
E280-4T0022G/4T0030P~
E280-4T0030G/4T0040P~
E280-4T0040G/4T0055P~
E280-4T0055G/4T0075P~
E280-4T0075G/4T0090P~
E280-4T0090G/4T0110P~
E280-4T0110G/4T0150P~
E280-4T0150G/4T0185P~
E280-4T0185G/4T0220P~
E280-4T0220G/4T0300P~
E280-4T0300G/4T0370P~
E280-4T0370G/4T0450P~
E280-4T0450G/4T0550P~
E280-4T0550G/4T0750P~
E280-4T0750G/4T0900P~
E280-4T0900G/4T1100P~
E280-4T1100G/4T1320P~
E280-4T1320G/4T1600P~
E280-4T1600G/4T1850P~
E280-4T1850G/4T2000P~
E280-4T2000G/4T2200P~
E280-4T2200G/4T2500P~
E280-4T2500G/4T2800P~
E280-4T2800G/4T3150P~
E280-4T3150G/4T3500P



IV Class applicable models:
E280-4T2500G/4T2800P~
E280-4T2800G/4T3150P~
E280-4T3150G/4T3500P

Model number (Three-phase 380 V)	Model number (Three-phase 220 V)	W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	Screw (Spec.)
E280-4T0011G/0015P	—	—	87	97	152	162	M4
E280-4T0015G/0022P	—	—	121	135	234	248	175
E280-4T0022G/0030P	—	—	146	160	261	275	M5
E280-4T0030G/0040P	—	—	169	180	290	305	179
E280-4T0040G/0055P	—	—	160	210	387	405	M6
E280-4T0055G/0075P	E280-2T0022	—	160	250	422	445	216
E280-4T0075G/0090P	E280-2T0030	—	380	510	710	740	M8
E280-4T0090G/0110P	E280-2T0040	—	400	580	760	793	300
E280-4T0110G/0150P	E280-2T0055	—	500	700	960	1000	M10
E280-4T0150G/0185P	E280-2T0075	—	580	730	1103	1130	340
E280-4T0185G/0220P	E280-2T0090	—	580	730	1103	1130	M10
E280-4T0220G/0300P	E280-2T0110	—	427	545	567	250	M8
E280-4T0300G/0370P	E280-2T0150	—	427	545	567	250	M8
E280-4T0370G/0450P	E280-2T0185	—	427	545	567	250	M8
E280-4T0450G/0550P	E280-2T0220	—	427	545	567	250	M8
E280-4T0550G/0750P	E280-2T0300	—	427	545	567	250	M8
E280-4T0750G/0900P	E280-2T0370	344	381	588	614	298	M8
E280-4T0900G/1100P	E280-2T0450	—	427	545	567	250	M8
E280-4T1100G/1320P	E280-2T0550	380	510	710	740	270	M8
E280-4T1320G/1600P	E280-2T0750	—	427	545	567	250	M8
E280-4T1600G/1850P	E280-2T0900	400	580	760	793	300	M10
E280-4T1850G/2000P	E280-2T1000	—	500	700	960	1000	M10
E280-4T2000G/2200P	E280-2T1200	—	580	730	1103	1130	340
E280-4T2200G/2500P	E280-2T1500	—	580	730	1103	1130	M10
E280-4T2500G/2800P	E280-2T1800	—	580	730	1103	1130	M10
E280-4T2800G/3150P	E280-2T2000	—	580	730	1103	1130	340
E280-4T3150G/3500P	E280-2T2200	—	580	730	1103	1130	M10

E380 Series

E380 Series Integrated Universal AC Drive

E380 series universal AC drive is featuring independent air duct design, scientific and reasonable structure layout. Through all-round continuous promotion of the electrical performance, E380 series AC drive becomes an example with high reliability and stability.



Typical Applications

- Textile
- Food
- Chemical
- Transmission
- Pumps and fans
- Mine machinery
- Ceramics Industry
- Construction
- Package machinery
- Wood machinery etc



Features

- Compact and reasonable structure design, and special conformal coating process, ensuring safe and reliable electricity channels.
- Double LED panel display is convenient for customers' monitoring and commissioning.
- Droop control function: automatically balance power of drive system of inverters on the same transmission chain, and single inverter drive can reach torque motor characteristics.
- Particular self-adaptive control technology, allowing automatic current-limiting, voltage-limiting and under-voltage suppression during operation.
- Standard RS485 communication interface, optional MODBUS protocol and simphoenix self-defined protocol, with linkage of inverter and PLC, or other industry control equips easily.
- Load auto-balancing function, when RS485 communication linkage control function is adopted, the master synchronously sends frequency and torque load commands to every slave, so as to achieve torque balance of each variable frequency drive system.

Functions

Feature	Multi-segment running, built-in PID, automatic energy-saving and voltage regulator, counter, timer, reverse operation limit, slip compensation, fault self-recovery
Protection	overcurrent, overvoltage, undervoltage, over-heat, short circuit, output phase lack

Specifications

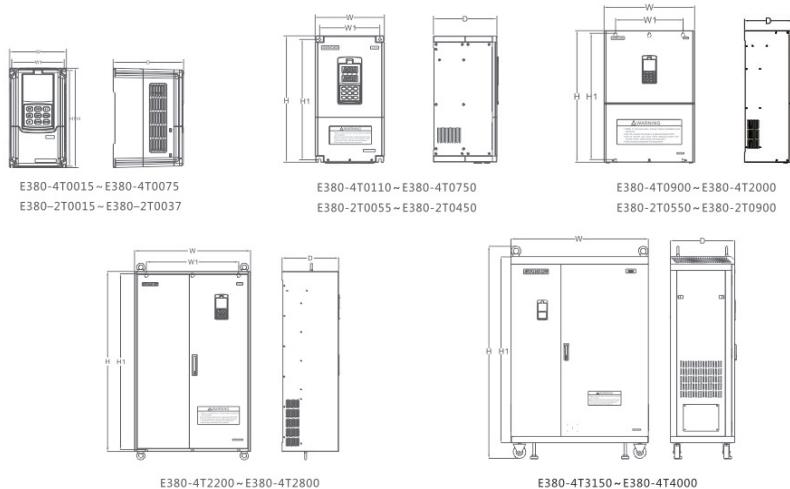
Input voltage (U1), frequency	3AC 380V ±20%, 50/60Hz 3AC 220V ±20%, 50/60Hz
Power range	3AC 380V ±20%, 1.5 kW~400kW 3AC 220V ±20%, 1.5kW~132kW
Output voltage	3AC 0~380V
Output frequency	11kW and power below: 0.0~600.0Hz 15kW and power above: 0.0~400.0Hz
Carrier frequency	1.5~12.0kHz (along with the power)
Loading-capacity	110%--long-time, 150%~60s, 180%--2s
Control mode	VVVF vacuum voltage vector
Digital input/output	6 functional terminal input, 2 programmable collector output
Pulse input	Amplitude 5~30V, pulse within 50kHz
Analog input/output	2 voltage signal (0~10V) output channel, 1 current signal channel (0~20mA), 2 programmable analog output channel (both voltage and current signal are optional)
Communication interface	Standard RS485 communication interface, optional MODBUS protocol and simphoenix self-defined protocol
Braking unit	Standard configured at 15kW and power below, optional configured above 15kW
Peripheral interface	Provide 2 outward power source channel, one is +10V/10mA or +5V/50mA, the other one is +24V/50mA
Install	Wall mounted (220 kW and above optional cabinet)
Protection class	IP20
Certificate	CE

E380 Series

Model Table

Voltage class	Model	Code	General load pattern			Steady load pattern		
			Rated capacity (KVA)	Suitable motor (kW)	Rated current (A)	Rated capacity (KVA)	Suitable motor (kW)	Rated current (A)
Three phase 220V	E380-2T0015	000-380230015	2.9	1.5	7.5	—	—	—
	E380-2T0022	000-380230022	3.8	2.2	10	—	—	—
	E380-2T0037	000-380230037	5.7	3.7	15	—	—	—
	E380-2T0055	000-380230055	9.5	5.5	25	—	—	—
	E380-2T0075	000-380230075	12.6	7.5	33	—	—	—
	E380-2T0110	000-380230110	17.5	11	46	—	—	—
	E380-2T0150	000-380230150	22.9	15	60	—	—	—
	E380-2T0185	000-380230185	28.6	18.5	75	—	—	—
	E380-2T0220	000-380230220	32.4	22	85	—	—	—
	E380-2T0300	000-380230300	41.9	30	110	—	—	—
	E380-2T0370	000-380230370	51.5	37	135	—	—	—
	E380-2T0450	000M380230450	64.8	45	170	—	—	—
	E380-2T0550	000M380230550	78.1	55	205	—	—	—
	E380-2T0750	000M380230750	101	75	265	—	—	—
	E380-2T0900	000M380230900	122	90	320	—	—	—
	E380-2T1100	000M380231100	145	110	380	—	—	—
	E380-2T1320	000M380231320	174	132	457	—	—	—
Three phase 380V	E380-4T0015	000-380430015	2.4	1.5	3.7	3.6	2.2	5.5
	E380-4T0022	000-380430022	3.6	2.2	5.5	5.6	3.7	8.5
	E380-4T0037	000-380430037	5.6	3.7	8.5	8.6	5.5	13
	E380-4T0055	000-380430055	8.6	5.5	13	11	7.5	17
	E380-4T0075	000-380430075	11	7.5	17	16.5	11	25
	E380-4T0110	000-380430110	16.5	11	25	21.7	15	33
	E380-4T0150	000-380430150	21.7	15	33	25.7	18.5	39
	E380-4T0185	000-380430185	25.7	18.5	39	29.6	22	45
	E380-4T0220	000-380430220	29.6	22	45	39.5	30	60
	E380-4T0300	000-380430300	39.5	30	60	49.4	37	75
	E380-4T0370	000-380430370	49.4	37	75	60	45	91
	E380-4T0450	000-380430450	60	45	91	73.7	55	112
	E380-4T0550	000-380430550	73.7	55	112	98.7	75	150
	E380-4T0750	000-380430750	98.7	75	150	116	90	176
	E380-4T0900	000-380430900	116	90	176	138	110	210
	E380-4T1100	000-380431100	138	110	210	171	132	260
	E380-4T1320	000-380431320	171	132	260	204	160	310
	E380-4T1600	000-380431600	204	160	310	237	185	360
	E380-4T1850	000-380431850	237	185	360	253	200	385
	E380-4T2000	000-380432000	253	200	385	276	220	420
	E380-4T2200	000-380432200	276	220	420	313	250	475
	E380-4T2500	000-380432500	313	250	475	352	280	535
	E380-4T2800	000-380432800	352	280	535	395	315	600
	E380-4T3150	000-380433150	395	315	600	424	350	645
	E380-4T3500	000-380433500	428	350	650	480	400	730
	E380-4T4000	000-380434000	480	400	730	513	450	800

Installation and Dimension Figure



Inverter model (Three phase 380V)	Inverter model (Three phase 220V)	W1(mm)	W(mm)	H1(mm)	H(mm)	D(mm)	Screw
E380-4T0015	E380-2T0015	123	134	223	234	165	M4
E380-4T0022	E380-2T0022	157	169	282	294	178	M5
E380-4T0037	—	184	204	328	344	199	M6
E380-4T0055	E380-2T0037	200	230	400	420	211	M6
E380-4T0075	—	232	260	450	470	233	M8
E380-4T110	E380-2T0055	271	300	545	567	250	M8
E380-4T150	E380-2T0110	344	381	588	614	298	M8
E380-4T185	—	380	510	710	740	270	M8
E380-4T220	E380-2T0150	400	580	760	793	300	M10
E380-4T300	E380-2T0185	550	700	960	1000	340	M10
E380-4T370	E380-2T0220	580	730	1103	1130	355	M10
E380-4T450	E380-2T0250	—	1100	1490	1670	515	—
E380-4T550	E380-2T0350	—	—	—	—	—	—
E380-4T750	E380-2T0400	—	—	—	—	—	—

E500 Series

E500 Series Universal Mini-type AC Drive



E500 series AC Drive is developed based on new hardware platform, which is characterized with extraordinary performance, complete protection functions, small structure, elegance and durability. Optional control keyboard can be used flexibly by users according to requirements. It is especially configured with a status indicator to achieve keyboard-free operation and basic operation status monitor.

Typical Applications

- Textile
- Food
- Transmission
- Ceramics
- Grinding machine
- Centrifugal machine
- Engraving machine
- Terminal machine, Wire-cutting machine, Dividing and cutting machine etc.



Features

- SVC,V/F control.
- Highly adaptive to grid voltage, with endurable to $\pm 20\%$ fluctuation.
- Special self-adaptive control technology, allowing automatic current-limiting, voltage-limiting and under-voltage suppression during operation.
- Standard RS485 communication interface, optional MODBUS protocol and Simphoenix self-defined protocol, with linkage of inverter and PLC, or other industry control equips easily.
- The panel supports hot-plugging applicable for system integration for various applications.
- Vivid real-time monitor, allowing for monitoring input and output current, voltage etc. in real time.
- 4-channel multifunctional input terminals, with 29 kinds of terminal function definitions, 16 kinds of programmable status outputs, hence enabling flexible parameters control.
- Built-in counter is able to conduct simple counting with match of multifunctional terminals.
- Internally integrated and optimized PID controller, facilitating to conduct closed-loop control over temperature, etc. which is able to simplify control system structure to reduce cost.

Functions

Feature	Specific application parameter, simple PLC, multi-segment running, custom V/F curve, various terminal function definition, RS485 communication, communication linkage
Control feature	VVVF vacuum voltage vector loading-capacity: 110%--long-term, 150% --60s, 180% --2s
Protection	overcurrent, overvoltage, undervoltage, over-heat, short circuit, output phase lack

Specifications

Input voltage (U1), frequency	3AC 380V $\pm 20\%$, 50/60Hz 1AC 220V $\pm 20\%$, 50/60Hz
Power range	3AC 380V $\pm 20\%$, 0.7 kW~4.0 kW 1AC 220V $\pm 20\%$, 0.4 kW~4.0 kW
Output voltage	3AC 0~380V 3AC 0~220V
Output frequency	0.0~400.0Hz
Carrier frequency	1.5~10.0kHz (along with the power)
Control mode	SVC,V/F
Digital input/output	Standard 4 digital input (X) Standard 1 digital output (OC)
Analog input/output	Voltage input (AI) (optional 0~20mA current input mode), 1~10V analog output signal (AO)
Communication interface	Optional RS485 interface, Support MODBUS communication protocol
Braking unit	Optional configured
Peripheral interface	Provide 2 outward power source channel, one is +10V/10mA or +5V/50mA, the other is +24V/50mA
Install	Optional wall mounted and orbital
Protection class	IP20
Certificate	CE

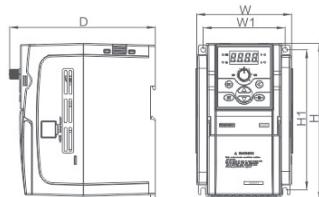
E500 Series

Model Table

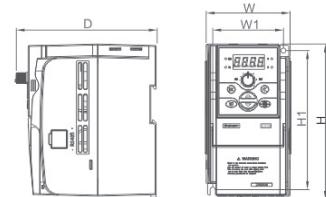
Voltage class	Model	Code	Rated capacity (kVA)	Suitable motor (kW)	Rated current (A)
Single phase 220V	E500-2S0004(B)	000M550220004(B)	1.1	0.4	3.0
	E500-2S0007(B)	000M550220007(B)	1.9	0.75	5.0
	E500-2S0015(B)	000M550220015(B)	2.9	1.5	7.5
	E500-2S0022(B)	000M550220022(B)	3.8	2.2	10.0
	E500-2S0030(B)	000M550220030(B)	5.3	3.0	14.0
	E500-2S0040(B)	000M550220040(B)	6.3	4.0	16.5
Three phase 380V	E500-4T0007(B)	000M550430007(B)	1.6	0.75	2.5
	E500-4T0015(B)	000M550430015(B)	3.0	1.5	4.5
	E500-4T0022(B)	000M550430022(B)	3.6	2.2	5.5
	E500-4T0030(B)	000M550430030(B)	5.0	3.0	7.5
	E500-4T0040(B)	000M550430040(B)	6.3	4.0	9.5

Note: The model with a suffix of "B" has braking unit and RS485 interface.

Installation and Dimension Figure



Class I Suitable for:
E500-2S0004(B)-E500-2S0007(B)



Class I Suitable for:
E500-2S0015(B)-E500-2S0040(B)/
E500-4T0007(B)-E500-4T0040(B)

Inverter model (Three phase 380V)	Inverter model (Single phase 220V)	W1(mm)	W(mm)	H1(mm)	H(mm)	D(mm)	Screw
—	E500-2S0004(B)	67.5	81.5	132.5	148	134.5	M4
—	E500-2S0007(B)	86.5	101.5	147.5	165	154.5	M4
E500-4T0007(B)	—	100	110	190	205	169.5	M5
E500-4T0015(B)	E500-2S0015(B)						
E500-4T0022(B)	E500-2S0022(B)						
E500-4T0030(B)	E500-2S0030(B)						
E500-4T0040(B)	E500-2S0040(B)						

DBKU Series Breaking Unit



The new generation of DBKU has configured with keypad which can easily read the parameters and make all the settings by user ;with new design of hardware and software, it has more functions like current sampling,voltage tracking breaking and overcurrent,overload,short circuit,IGBT straight protections,also it has master and slave function which makes multiple DBKUs are able to work. With all these update fatures,our new breaking unit can work more smoothly and more stable.

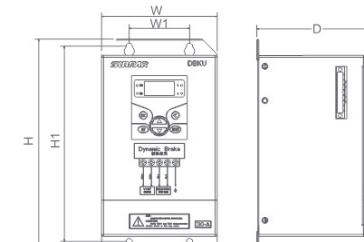
Specifications

Voltage	380V
Breaking Mode	Voltage tracking mode and Voltage hysteresis mode
Response Time	2ms
Action Voltage	620-730V
Overheat Protection	DC bus voltage 850V
Overcurrent Protection	Rated current 2.5 times(incase the breaking resistor is small)
Overload Protection	The lasing time of passing peak current is less than 25S
Protections	Over current,short circuit,overload,overheat,IGBT straight protection
Status Indication	Power source indication,breaking status indication,fault indication
Action Voltage Setting	620-730V set via keypad

Model Table

Voltage class	Model	Code	Power (kW)	Current(A)		Minimum breaking resistor(R)	Breaking resistor pour (breaking frequenctess=5%)
				Rated(Long-term)	Peak value>Last 25S)		
Three phase 380V	DBKU-30-A	050M005380030	L: 22-45	30	50	23	15kW
			H: 18.5-30				
	DBKU-50-A	050M005380050	L: 55-90	50	100	13	27kW
			H: 37-55				

Dimensions



Model number	W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	Screw
DBKU-30-A	60	115	194	207	120	M4
DBKU-50-A						



Motion Control Product

CA100 Series Servo Drive



CA100 series servo drive is designed based on a new software and hardware platform. With high cost performance CA100 series servo drive is suitable to the application fields like machine tool, engraving machine, textile and packaging. It has position, speed, torque and multiple control mode and is able to enhance functions to meet the requirement of different kinds of applications.

Typical Applications

- Machine tool
- Engraving machine
- Textile equipment
- Packaging machinery
- Cutting machine
- Food processing



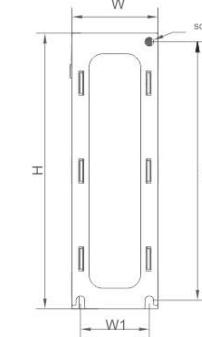
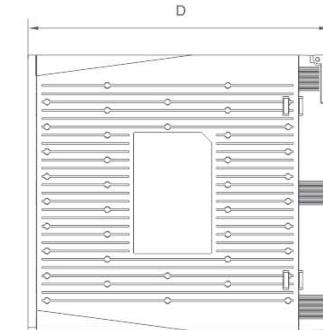
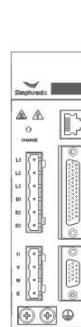
Features

- Various control mode like position,speed,torque and multiple compound control.
- Response frequency is 1.5KHZ.
- Available of 2500 wire,17bit,20bit multiple encoder.
- With the load inertia integration,load interia identification and vibration depression dialing device.
- Overload capacity up to 3 times.

Specifications

Basic Specifications	Drive model	CA100T 1R8, 3R0, 4R5, 6R0, 7R5, 10R CA100F 4R0, 6R0, 8R5, 12R, 20R	1PH/3PH AC220V -15%~+10% 50/60Hz 3PH AC380V -15%~+10% 50/60Hz
	Control mode	Torque, speed, position, speed/position, torque/position, torque/speed	
	Feedback	Incremental encoder 2500P/R	
	Temperature	Working ambient temperature: 0°C~+45°C (When the environmental temperature is more than +45°C, please make inverter derated.) Storage temperature: -20°C~+60°C	
	Humidity	Below 90%RH, no condensed water	
	Vibration	0.5G(4.9m/s ²)	
	Protecting grade	IP10	
	Altitude	Under 1000m (When >1000m, please derate.)	
	Others	1. No electrostatic interference, no strong electric field, no strong magnetic field, no radiation etc. 2. No corrosive gas, combustible gas and water, oil, medicine spray. 3. Under environment of little dust, dirt, salt and metal powder etc.	
	Installation	Pedestal mounted	
Speed control	Control input	1. 8-channel internal command, internal speed is changeable by control input. 2. External analog command. 3. Zero speed clamp	
	Control output	Speed arrival judgment: 3 methods	
	Analog input	1. According to analog voltage to take speed command input, the max. Voltage is ±12V; 2. DC 300rpm/V [factory value], function code Pn029 can modify input proportion setting.	
	Torque limit command	Able to take forward/reverse torque limit separately	
	Speed ratio	1:6000	
	Speed variation rate	Fluctuation of load 0~100% load: under ±0.02% (\leq rated speed) Fluctuation of voltage Rated voltage ± 10%; 0% (\leq rated speed) Fluctuation of temperature 25 ±25°C; ± 0.1% (\leq rated speed)	
	Torque control precision	±1% (reproduce type)	
	Soft-start time	0 ~30s (able to set the acceleration time and deceleration time respectively)	
	Frequency response characteristic	1.5kHz(Max)	
	Position mode		
Position mode	Command pulse	Input pulse kind 1. Symbol + pulse 2. A, B quadrature pulse 3. CCW+CW pulse Input pulse form Cable-driven (+5V level), open collector (+5V, +12V, +24V level) Input pulse frequency Max, 500Kpps (difference) / 200Kpps (collector)	
	Electronic gear ratio	3 groups of electronic gear setting, 1 ~ 32767	
	Control input	Deviation counter clear signal, command pulse prohibit input, internal position 8 segments	
	Control output	Positioning complete signal, positioning approach judgment	
	Torque control		
Torque control	Control input	1. 4-channel of internal torque, able to take control input judgment 2. analog command input	
	Control output	Torque arrival judgment	
	Analog input	1. According to analog voltage to take torque command input, max. Input voltage is ±12V 2. DC 30%/ V [factory value], input proportion setting is changeable	
	Speed limit	3 limit methods	
	Input signal	8DI (digital input terminal) 2AI (analog input terminal)	
	Output signal	5DO (digital output terminal) 2AO (analog output terminal, can be used for debugging monitor)	
	Pulse output	A,B,C differential signal output, Z pulse collector output	
	Protection	Over current, over voltage, under voltage, over load, main circuit detection error, heatsink overheat, over speed, encoder disconnected, CPU error, parameter error	
	Communication	Rs485 1:N (N<128), extendable to other communication methods	
	Instruction	Built-in keypad, power charge	

Drive dimensions



Model	W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	Screw
CA100-T1R8□□	40	50	150	160	175	M4
CA100-T3R0□□	40	50	150	160	175	M4
CA100-T4R5□□						
CA100-T6R0□□	60	70	150	160	175	M4
CA100-T7R5□□						
CA100-T10R□□						
CA100-F4R0□□						
CA100-F6R0□□	89	100	169	180	200	M5
CA100-F8R5□□						
CA100-F12R□□	80	110	268	280	210	M5
CA100-F20R□□						

CM105 Series

CM105 series servo motor and matched CA100 servo drive selection table

220V						
Rated Torque(nm)	Speed(rpm)	Capacity(w)	Flange	Motor	Drive	Motor Code
0.60	3000	200	60	CM105-60T06030A1□□□□□	T1R8 A	2001
1.27	3000	400	60	CM105-60T13030A1□□□□□	T3R0 A	2025
			80	CM105-80T13030A1□□□□□	T3R0 A	2028
			60	CM105-60T19030A1□□□□□	T4R5 A	2055
2.00	3000	600	110	CM105-110T20030A1□□□□□	T3R0 A	2024
2.39	3000	750	80	CM105-80T24030A1□□□□□	T3R0 A	2027
2.40	3000	750	90	CM105-90T24030A1□□□□□	T3R0 A	2029
3.50	2000	730	80	CM105-80T35020A1□□□□□	T3R0 A	2026
			90	CM105-90T35020A1□□□□□	T3R0 A	2030
			1100	CM105-80T35030A1□□□□□	T4R5 A	2052
4.00	2500	1000	110	CM105-110T40020A1□□□□□	T4R5 A	2048
			80	CM105-80T40025A1□□□□□	T4R5 A	2050
			90	CM105-90T40025A1□□□□□	T4R5 A	2056
			130	CM105-130T40025A1□□□□□	T4R5 A	2049
			1200	CM105-80T40030A1□□□□□	T4R5 A	2053
5.00	3000	1200	80	CM105-80T40030A1□□□□□	T6R0 A	2074
			110	CM105-110T40030A1□□□□□	T6R0 A	2075
			130	CM105-130T50025A1□□□□□	T6R0 A	2076
6.00	2000	1200	110	CM105-110T60020A1□□□□□	T4R5 A	2054
			130	CM105-130T60025A1□□□□□	T6R0 A	2077
			1800	CM105-110T60030A1□□□□□	T6R0 A	2079
7.70	2500	2000	130	CM105-130T77025A1□□□□□	T7R5 A	2082
10.00	1000	1000	130	CM105-130T10110A1□□□□□	T4R5 A	2051
			1500	CM105-130T10115A1□□□□□	T6R0 A	2078
			2600	CM105-130T10125A1□□□□□	T10R A	2107
15.00	1500	2300	130	CM105-130T15115A1□□□□□	T10R A	2106
380V						
Rated Torque(nm)	Speed(rpm)	Capacity(w)	Flange	Motor	Drive	Motor Code
10.00	1000	1000	130	CM105-130F10110A1□□□□□	F4R0 A	4012
	1500	1500	130	CM105-130F10115A1□□□□□	F4R0 A	4013
	2500	2600	130	CM105-130F10125A1□□□□□	F6R0 A	4031
15.00	1500	2300	130	CM105-130F15115A1□□□□□	F6R0 A	4030
	2500	3800	130	CM105-130F15125A1□□□□□	F12R A	4067
19.00	1500	3000	180	CM105-180F19115A1□□□□□	F8R5 A	4049
21.50	2000	4500	180	CM105-180F22120A1□□□□□	F12R A	4068
27.00	1500	4300	180	CM105-180F27115A1□□□□□	F12R A	4070
35.00	1000	3700	180	CM105-180F35110A1□□□□□	F12R A	4069
	1500	5500	180	CM105-180F35115A1□□□□□	F12R A	4071
48.00	1500	7500	180	CM105-180F48115A1□□□□□	F20R A	4083

CM102 series servo motor and matched CA100 servo drive selection table

220V							
Rated Torque(nm)	Speed(rpm)	Capacity(w)	Flange	Motor	Drive	Motor Code	
0.60	3000	200	60	CM102-60T06030A1□□□□□	T1R8 A	2000	
1.27	3000	400	60	CM102-60T13030A1□□□□□	T3R0 A	2021	
			80	CM102-80T13030A1□□□□□	T3R0 A	2023	
			60	CM102-60T19030A1□□□□□	T4R5 A	2055	
	2000	730	80	CM102-80T35020A1□□□□□	T3R0 A	2026	
			90	CM102-90T35020A1□□□□□	T3R0 A	2030	
			1100	CM102-80T35030A1□□□□□	T4R5 A	2052	
	2500	1000	110	CM102-110T40020A1□□□□□	T4R5 A	2048	
			80	CM102-80T40025A1□□□□□	T4R5 A	2050	
			90	CM102-90T40025A1□□□□□	T4R5 A	2056	
	3000	1200	130	CM102-130T40025A1□□□□□	T4R5 A	2049	
			80	CM102-80T40030A1□□□□□	T4R5 A	2053	
			110	CM102-110T40030A1□□□□□	T6R0 A	2074	
4.00	2500	1000	130	CM102-130T50025A1□□□□□	T6R0 A	2075	
			110	CM102-110T50030A1□□□□□	T6R0 A	2076	
6.00	2000	1200	110	CM102-110T60020A1□□□□□	T4R5 A	2054	
	2500	1500	130	CM102-130T60025A1□□□□□	T6R0 A	2077	
	3000	1800	110	CM102-110T60030A1□□□□□	T6R0 A	2079	
7.70	2500	2000	130	CM102-130T77025A1□□□□□	T7R5 A	2082	
10.00	1000	1000	130	CM102-130T10110A1□□□□□	T4R5 A	2051	
	1500	1500	130	CM102-130T10115A1□□□□□	T6R0 A	2078	
	2500	2600	130	CM102-130T10125A1□□□□□	T10R A	2107	
15.00	1500	2300	130	CM102-130T15115A1□□□□□	T10R A	2106	
380V							
Rated Torque(nm)	Speed(rpm)	Capacity(w)	Flange	Motor	Drive	Motor Code	
4.00	3000	1200	110	CM102-110F40030A1□□□□□	F4R0 A	4007	
	2500	1300	130	CM102-130F50025A1□□□□□	F4R0 A	4009	
			110	CM102-110F50030A1□□□□□	F6R0 A	4025	
			130	CM102-110F60020A1□□□□□	F4R0 A	4008	
	3000	1500	130	CM102-130F60025A1□□□□□	F4R0 A	4011	
			110	CM102-110F60030A1□□□□□	F6R0 A	4026	
			130	CM102-130F10115A1□□□□□	F4R0 A	4010	
	2000	130	130	CM102-130F10120A1□□□□□	F6R0 A	4028	
			2600	CM102-130F10125A1□□□□□	F6R0 A	4029	
			130	CM102-130F15115A1□□□□□	F6R0 A	4027	
15.00	2000	3000	150	CM102-150F15120A1□□□□□	F8R5 A	4044	
	2500	3800	130	CM102-130F15125A1□□□□□	F8R5 A	4045	
	2500	3800	150	CM102-150F15125A1□□□□□	F12R A	4060	
	17.20	1500	2700	180	CM102-180F17115A1□□□□□	F8R5 A	4043
	18.00	2000	3600	180	CM102-150F18120A1□□□□□	F8R5 A	4048
19.00	1500	3000	180	CM102-180F19115A1□□□□□	F8R5 A	4047	
21.50	2000	4500	180	CM102-180F21120A1□□□□□	F12R A	4061	
23.00	2000	4700	150	CM102-150F23120A1□□□□□	F12R A	4065	
27.00	1000	2900	180	CM102-180F27110A1□□□□□	F8R5 A	4046	
	1500	4200	180	CM102-150F27115A1□□□□□	F12R A	4064	
	1500	4300	180	CM102-180F27115A1□□□□□	F12R A	4062	

CM102 Series

CM102 series servo motor and matched CA100 servo drive selection table

380V						
Rated Torque(nm)	Speed(rpm)	Capacity(w)	Flange	Motor	Drive	Motor Code
27.00	2000	5500	150	CM102-150F27120A1□□□□□	F20R A	4080
	2500	6800	150	CM102-150F27125A1□□□□□	F20R A	4081
35.00	1000	3700	180	CM102-180F35110A1□□□□□	F12R A	4063
	1500	5500	180	CM102-180F35115A1□□□□□	F12R A	4066
48.00	1500	7500	180	CM102-180F48115A1□□□□□	F20R A	4082

CM100 series servo motor and matched CA100 servo drive selection table

220V						
Rated Torque(nm)	Speed(rpm)	Capacity(w)	Flange	Motor	Drive	Motor Code
1.30	3000	400	80	CM100-80T13030A1□□□□□	T3R0 A	2020
2.00	3000	600	110	CM100-110T20030A1□□□□□	T4R5 A	2040
2.40	3000	750		CM100-80T24030A1□□□□□	T4R5 A	2042
3.30	3000	1000	80	CM100-80T3030A1□□□□□	T4R5 A	2043
4.00	2500	1000	130	CM100-130T40025A1□□□□□	T4R5 A	2041
	3000	1200	110	CM100-110T40030A1□□□□□	T6R0 A	2061
5.00	2000	1000	130	CM100-130T50020A1□□□□□	T6R0 A	2060
	2500	1300	130	CM100-130T50025A1□□□□□	T6R0 A	2062
	3000	1500		CM100-110T50030A1□□□□□	T6R0 A	2064
6.00	2000	1500	110	CM100-110T60020A1□□□□□	T6R0 A	2063
	2500	1500	130	CM100-130T60025A1□□□□□	T6R0 A	2065
	3000	1800	110	CM100-110T60030A1□□□□□	T10R A	2100
7.70	2000	1600	130	CM100-130T77020A1□□□□□	T6R0 A	2067
	2500	2000	130	CM100-130T77025A1□□□□□	T7R5 A	2080
	3000	2400	130	CM100-130T77030A1□□□□□	T10R A	2101
10.00	1500	1500	130	CM100-130T10115A1□□□□□	T6R0 A	2066
	2500	2600	130	CM100-130T10125A1□□□□□	T10R A	2103
15.00	1500	2300	130	CM100-130T15115A1□□□□□	T10R A	2102
380V						
Rated Torque(nm)	Speed(rpm)	Capacity(w)	Flange	Motor	Drive	Motor Code
2.00	3000	600	110	CM100-110F20030A1□□□□□	F4R0 A	4000
4.00	2500	1000	130	CM100-130F40025A1□□□□□	F4R0 A	4001
	3000	1200	110	CM100-110F40030A1□□□□□	F4R0 A	4005
5.00	2000	1000	130	CM100-130F50020A1□□□□□	F4R0 A	4002
	2500	1300	130	CM100-130F50025A1□□□□□	F4R0 A	4004
	3000	1500	110	CM100-110F50030A1□□□□□	F6R0 A	4020
6.00	2000	1200	110	CM100-130F60020A1□□□□□	F4R0 A	4003
	2500	1500	130	CM100-130F60030A1□□□□□	F6R0 A	4021
	3000	1600	110	CM100-110F60030A1□□□□□	F6R0 A	4023
7.70	2000	1600	130	CM100-130F77020A1□□□□□	F4R0 A	4006
	2500	2000	130	CM100-130F77025A1□□□□□	F6R0 A	4024
	3000	2400	130	CM100-130F77030A1□□□□□	F8R5 A	4040
10.00	1500	1500	130	CM100-130F10115A1□□□□□	F6R0 A	4022
	2500	2600	130	CM100-130F10125A1□□□□□	F8R5 A	4042
15.00	1500	2300	130	CM100-130F15115A1□□□□□	F8R5 A	4041

CA150 Series Servo Drive

CA150 series servo drive is dedicated to the typical fields like engraving machines, bending machine, CNC cutting, machine tools, industrial robots, packaging, food processing and textile industry. Integrated with multiple intelligent control theory, remarkable current response, humanized operating mode and parameter design, to make sure the min. parameter adjustment free, greatly reduced requirements for the operators' experience and technique, reduce the complexity coordinate with the master computer, accomplish the on-site assembly, debug and running.

CA150 series support 17, 23 bit absolute encoder with high speed resolution, precision positioning, quick response, high rigidity and strong anti-interference ability. CA150 support RS485 and CAN communication, make it satisfy a number of key industries operating condition, meanwhile, it's competitive with the extraordinary high cost-effectiveness.



Typical Applications

- Engraving machine
- Bending machine
- CNC cutting machinery
- Machine tools
- Industrial robot



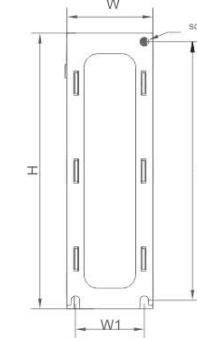
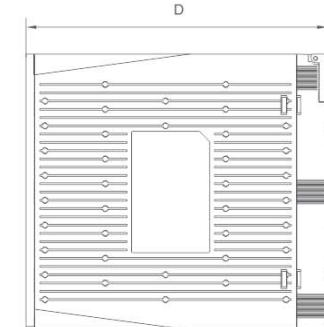
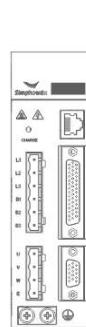
Features

- Various control mode like position, speed, torque and multiple compound control.
- Response frequency is 1.6KHZ.
- Available of 17bit,23bit single or multi turn absolute encoder
- With the load inertia integration, load inertia identification and vibration depression dialing device.
- Overload capacity up to 3 times
- Precise positioning with high rigidity system

Specifications

Basic Specifications	Drive model	CA150T 1R8, 3R0, 4R5, 6R0, 7R5, 10R CA150F 4R0, 6R0, 8R5, 12R, 20R	1PH/3PH AC220V -15%~+10% 50/60Hz 3PH AC380V -15%~+10% 50/60Hz
	Control mode	Torque, speed, position, speed/position, torque/position, torque/speed	
	Feedback	17bit,23bit single/multi turn absolute encoder	
	Temperature	Working ambient temperature: 0°C~+45°C (When the environmental temperature is more than +45°C, please make inverter derated.) Storage temperature: -20°C~+60°C	
	Humidity	Below 90%RH, no condensed water	
	Vibration	0.5G(4.9m/s ²)	
	Protecting grade	IP10	
	Altitude	Under 1000m (When >1000m, please derate.)	
	Others	1. No electrostatic interference, no strong electric field, no strong magnetic field, no radiation etc. 2. No corrosive gas, combustible gas and water, oil, medicine spray. 3. Under environment of little dust, dirt, salt and metal powder etc.	
	Installation	Pedestal mounted	
Speed control	Control input	1. 8-channel internal command, internal speed is changeable by control input. 2. External analog command. 3. Zero speed clamp	
	Control output	Speed arrival judgment: 3 methods	
	Analog input	1.According to analog voltage to take speed command input, the max. Voltage is ±12V; 2.DC 300rpm/V [factory value], function code Pn029 can modify input proportion setting.	
	Torque limit command	Able to take forward/reverse torque limit separately	
	Speed ratio	1:6000	
	Speed variation rate	Fluctuation of load 0~100% load: under ±0.02% (\leq rated speed) Fluctuation of voltage Rated voltage ± 10%; 0% (\leq rated speed) Fluctuation of temperature 25 ±25°C; ± 0.1% (\leq rated speed)	
	Torque control precision	±1% (reproduce type)	
	Soft-start time	0 ~30s (able to set the acceleration time and deceleration time respectively)	
	Frequency response characteristic	1.5kHz(Max)	
	Position mode		
Position mode	Command pulse	Input pulse kind 1. Symbol + pulse 2. A, B quadrature pulse 3. CCW+CW pulse Input pulse form Cable-driven (+5V level), open collector (+5V, +12V, +24V level) Input pulse frequency Max. 500Kpps (difference) / 200Kpps (collector)	
	Electronic gear ratio	3 groups of electronic gear setting, 1 ~ 32767	
	Control input	Deviation counter clear signal, command pulse prohibit input, internal position 8 segments	
	Control output	Positioning complete signal, positioning approach judgment	
	Torque control		
Torque control	Control input	1. 4-channel of internal torque, able to take control input judgment 2. analog command input	
	Control output	Torque arrival judgment	
	Analog input	1.According to analog voltage to take torque command input, max. Input voltage is ±12V 2.DC 30%/ V [factory value], input proportion setting is changeable	
	Speed limit	3 limit methods	
	Input signal	8DI (digital input terminal) 2AI (analog input terminal)	
	Output signal	5DO (digital output terminal) 2AO (analog output terminal, can be used for debugging monitor)	
	Pulse output	A,B,C differential signal output, Z pulse collector output	
	Protection	Over current, over voltage, under voltage, over load, main circuit detection error, heatsink overheat, over speed, encoder disconnected, CPU error, parameter error	
	Communication	Rs485 1:N (N<128), CANopen, extendable to other communication methods	
	Instruction	Built-in keypad, power charge	

Drive dimensions



Model	W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	Screw
CA150-T1R8□□	40	50	150	160	175	M4
CA150-T3R0□□	40	50	150	160	175	M4
CA150-T4R5□□						
CA150-T6R0□□	60	70	150	160	175	M4
CA150-T7R5□□						
CA150-T10R□□						
CA150-F4R0□□						
CA150-F6R0□□	89	100	169	180	200	M5
CA150-F8R5□□						
CA150-F12R□□	80	110	268	280	210	M5
CA150-F20R□□						

CM155 Series

CM155 series servo motor and matched CA150 servo drive

Note: "A2" in the Servo motor model "CM155-60T06030A2----" stands for 17bit absolute encoder
Note: "A5" in the Servo motor model "CM155-60T06030A5----" stands for 23bit absolute encoder

220V						
Rated Torque(nm)	Speed(rpm)	Capacity(w)	Flange	Motor	Drive	Motor Code
0.64	3000	200	60	CM155-60T06030A2□□□□□	T1R8 A	3000
				CM155-60T06030A5□□□□□	T1R8 A	3001
1.27	3000	400	60	CM155-60T13030A2□□□□□	T3R0 A	3054
				CM155-60T13030A5□□□□□	T3R0 A	3055
			80	CM155-80T13030A2□□□□□	T3R0 A	3050
				CM155-80T13030A5□□□□□	T3R0 A	3051
1.91	3000	400	60	CM155-60T19030A2□□□□□	T4R5 A	3102
				CM155-60T19030A5□□□□□	T4R5 A	3103
2.00	3000	600	110	CM155-110T20030A2□□□□□	T3R0 A	3052
				CM155-110T20030A5□□□□□	T3R0 A	3053
2.39	3000	750	80	CM155-80T24030A2□□□□□	T3R0 A	3060
				CM155-80T24030A5□□□□□	T3R0 A	3061
2.40	3000	750	90	CM155-90T24030A2□□□□□	T3R0 A	3062
				CM155-90T24030A5□□□□□	T3R0 A	3063
3.50	2000	730	80	CM155-80T35020A2□□□□□	T3R0 A	3056
				CM155-80T35020A5□□□□□	T3R0 A	3057
			90	CM155-90T35020A2□□□□□	T3R0 A	3058
				CM155-90T35020A5□□□□□	T3R0 A	3059
	3000	1100	80	CM155-80T35030A2□□□□□	T4R5 A	3112
				CM155-80T35030A5□□□□□	T4R5 A	3113
4.00	2000	800	110	CM155-110T40020A2□□□□□	T4R5 A	3100
				CM155-110T40020A5□□□□□	T4R5 A	3101
	2500	1000	80	CM155-80T40025A2□□□□□	T4R5 A	3108
				CM155-80T40025A5□□□□□	T4R5 A	3109
			90	CM155-90T40025A2□□□□□	T4R5 A	3104
				CM155-90T40025A5□□□□□	T4R5 A	3105
	3000	1200	130	CM155-130T40025A2□□□□□	T4R5 A	3106
				CM155-130T40025A5□□□□□	T4R5 A	3107
			80	CM155-80T40030A2□□□□□	T4R5 A	3114
				CM155-80T40030A5□□□□□	T4R5 A	3115
			110	CM155-110T40030A2□□□□□	T6R0 A	3150
				CM155-110T40030A5□□□□□	T6R0 A	3151
5.00	2500	1300	130	CM155-130T50025A2□□□□□	T6R0 A	3152
				CM155-130T50025A5□□□□□	T6R0 A	3153
	3000	1500	110	CM155-110T50030A2□□□□□	T6R0 A	3154
				CM155-110T50030A5□□□□□	T6R0 A	3155

CM155 series servo motor and matched CA150 servo drive selection table

220V						
Rated Torque(nm)	Speed(rpm)	Capacity(w)	Flange	Motor	Drive	Motor Code
6.00	2000	1200	110	CM155-110T60020A2□□□□□	T4R5 A	3116
				CM155-110T60020A5□□□□□	T4R5 A	3117
	2500	1500	130	CM155-130T60025A2□□□□□	T6R0 A	3156
				CM155-130T60025A5□□□□□	T6R0 A	3157
7.70	3000	1800	110	CM155-110T60030A2□□□□□	T6R0 A	3160
				CM155-110T60030A5□□□□□	T6R0 A	3161
	2500	2000	130	CM155-130T77025A2□□□□□	T7R5 A	3200
				CM155-130T77025A5□□□□□	T7R5 A	3201
10.00	1000	1000	130	CM155-130T10110A2□□□□□	T4R5 A	3110
				CM155-130T10110A5□□□□□	T4R5 A	3111
	1500	1500	130	CM155-130T10115A2□□□□□	T6R0 A	3158
				CM155-130T10115A5□□□□□	T6R0 A	3159
15.00	2500	2600	130	CM155-130T10125A2□□□□□	T10R A	3252
				CM155-130T10125A5□□□□□	T10R A	3253
	1500	2300	130	CM155-130T15115A2□□□□□	T10R A	3250
				CM155-130T15115A5□□□□□	T10R A	3251
380V						
Rated Torque(nm)	Speed(rpm)	Capacity(w)	Flange	Motor	Drive	Motor Code
10.00	1000	1000	130	CM155-130F1010A2□□□□□	F4R0 A	5000
				CM155-130F1010A5□□□□□	F4R0 A	5001
	1500	1500	130	CM155-130F10115A2□□□□□	F4R0 A	5002
				CM155-130F10115A5□□□□□	F4R0 A	5003
15.00	2500	2600	130	CM155-130F10125A2□□□□□	F6R0 A	5052
				CM155-130F10125A5□□□□□	F6R0 A	5053
	1500	2300	130	CM155-130F15115A2□□□□□	F6R0 A	5050
				CM155-130F15115A5□□□□□	F6R0 A	5051
19.00	2500	3800	130	CM155-130F15125A2□□□□□	F12R A	5150
				CM155-130F15125A5□□□□□	F12R A	5151
	1500	1500	180	CM155-180F19115A2□□□□□	F8R5 A	5100
				CM155-180F19115A5□□□□□	F8R5 A	5101
21.50	2000	4500	180	CM155-180F22120A2□□□□□	F12R A	5152
				CM155-180F22120A5□□□□□	F12R A	5153
	1500	4300	180	CM155-180F27115A2□□□□□	F12R A	5156
				CM155-180F27115A5□□□□□	F12R A	5157
35.00	1000	3700	180	CM155-180F35110A2□□□□□	F12R A	5154
				CM155-180F35110A5□□□□□	F12R A	5155
	1500	5500	180	CM155-180F35115A2□□□□□	F12R A	5158
				CM155-180F35115A5□□□□□	F12R A	5159
48.00	1500	7500	180	CM155-180F48115A2□□□□□	F20R A	5200
				CM155-180F48115A5□□□□□	F20R A	5201

CS100 Series

CS100-S708AN Digital Stepper Drive



CS100-S708AN is a new digital stepper drive of simphoenix which adopt special motor control ARM mcu,based on PID current control algorithm,it can highly improve the high-speed performance and reduce the heating vibration of the motor.Thus improve the working speed and accuracy also reduce the power consumption. The installation dimensions can apply to the traditional 57,60 and 86 series stepper motor,able to replace the current open-loop stepper motor drive perfectly.

Typical Applications

- Engraving machine
- Stripping machine
- Marking machine
- Cutting machine
- Laser Phototypesetting
- Graph plotter
- CNC cutting machinery
- Automatic assembly equipment



Features

- Adopt special new 32 bit motor control ARM mcu.
- Adopt advanced PID current control algorithm.
- It can keeps steady and quiet working while at low speed application.
- Both static current and dynamic current can be set.
- It can drive 57,60 and 86 series hybrid stepper motor.
- Optocoupler isolation differential signal input.
- Maximum pulse response frequency can reach 200KHZ.
- 16 kinds of subdivision setting gear and 8 kinds of current setting gear.
- Has over current, under voltage and over voltage protection.

Functions

Protection

has over current, under voltage and over voltage protection;

Specifications

Working Voltage	20~75 VAC
Peak Current	7.2A
Maximum Pulse Frequency	200kHz
Isolation Resistor	$\geq 50M\Omega$
Subdivision Number	Subdivision Number
Cooling Method	Natural Cooling Or External Heat Radiator
Environment	Avoid Dust, oil Mist And Corrosive Gas
Working Temperature	0°C~50°C
Working Humidity	40~90%RH
Vibration	5.9 m/s ² Max
Storage Temperature	-20°C~50°C
Weight	About 780 Grams

CS100-S708AH Digital Hybrid Stepper Drive



CS100-S708AN is a new digital hybrid stepper drive of simphoenix which adopt special new motor control ARM mcu and vector closed-loop control tech. It has solved the problem of lost step of step motor.also highly improve the high speed performance reduce the heating vibration of the motor. Thus improve the working speed and accuracy also reduce the power consumption. In addition,when the motor continuous overload the drive will trips alarm.also it has the same reliability like the ac servo system.The installation dimensions can apply to the traditional 57, 60 and 86 series stepper motor, able to replace the current open-loop or closed loopstepper motor drive perfectly.

Typical Applications

- Engraving machine
- Stripping machine
- Marking machine
- Cutting machine
- Laser Phototypesetting
- graph plotter
- CNC cutting machinery
- Automatic assembly equipment



Features

- Adopt special new 32 bit motor control ARM mcu .
- Adopt high-precision encoder vector current control algorithm .
- Precision location and speed control can meet lots of difficult application .
- Timely adjust the current according to the actual load can keep the heating at the lowest point .
- It can drive 57,60 and 86 series hybrid stepper motor .
- Optocoupler isolation differential signal input .
- Maximum pulse response frequency can reach 200KHZ .
- 16 kinds of subdivision setting gear .
- Has over current, under voltage, over voltage and tracking deviation over-dosing protection .

Functions

Protection

It has over current, under voltage, over voltage and tracking deviation over-dosing protection .

Specifications

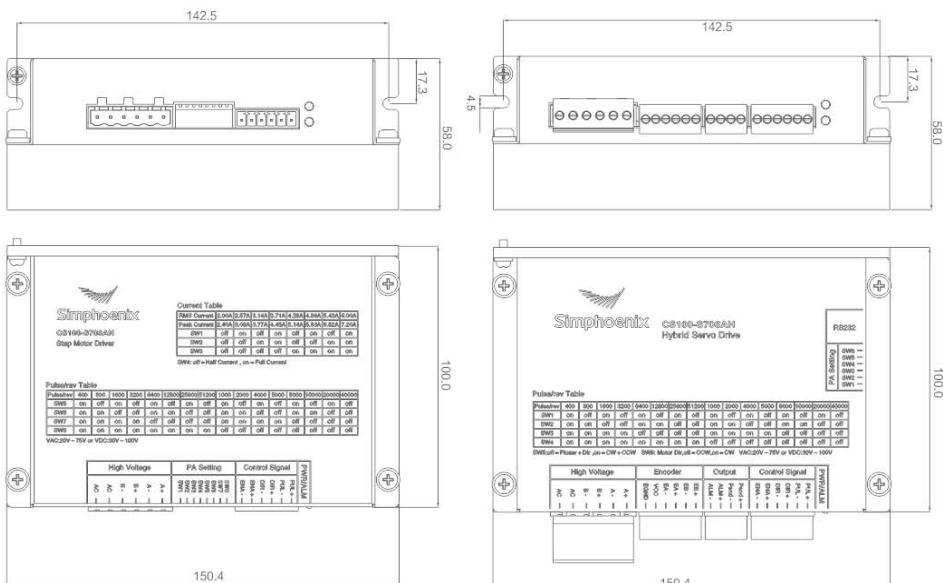
Working Voltage	20~75 VAC
Peak Current	7.2A
Maximum Pulse Frequency	200kHz
Isolation Resistor	$\geq 50M\Omega$
Subdivision Number	Subdivision Number
Encoder current	50mA
Control mode	Closed-loop vector current control
Communication port	RS232
Encoder feedback	AB differential input
Cooling Method	Natural Cooling Or External Heat Radiator
Environment	Avoid Dust, oil Mist And Corrosive Gas
Working Temperature	0°C~50°C
Working Humidity	40~90%RH
Vibration	5.9 m/s ² Max
Storage Temperature	-20°C~50°C
Weight	About 780 Grams

CS100 Series

CS100 stepper drive and matched SM stepper motor selection table

Holding torque (N.m)	Step angle	Phase current (A)	Motor model	Drive type	Remarks
0.4	1.8°	2.0	SM-57S004-020	CS100-S708AN	Open loop
0.9	1.8°	3.0	SM-57S009-030		
2.2	1.8°	3.0	SM-60S022-030		
3.0	1.8°	4.0	SM-60S030-040		
4.5	1.8°	6.0	SM-86S045-060		
8.0	1.8°	6.0	SM-86S080-060		
12.0	1.8°	6.0	SM-86S120-060		
2.2	1.8°	3.0	SM-60S022S-030		
3.0	1.8°	4.0	SM-60S030S-040		
4.5	1.8°	6.0	SM-86S045S-060		
8.0	1.8°	6.0	SM-86S080S-060		
12.0	1.8°	6.0	SM-86S120S-060		

Drive dimensions(mm)



SM Series Stepper Motor



Shenzhen Simphoenix Electric Technology Co.,Ltd is committed to researching and developing of stepper drive and stepper motor. Our featured single phase stepper motor system has obvious performance advantage over other domestic stepper drive systems by absorbing excellent characteristics of AC servo motor drive system.

Typical Applications

Adaptive to various types of small and medium-sized automation equipment and instrument. For example:

- Packaging machine
- Engraving machine
- Food processing
- Machine tool
- Automatic assembly equipment
- Electronic manufacture
- Wire stripping machine
- Marking machine
- Cutting machine



Features

- Low voice, low vibration .
- Precise position control .
- Precise speed .
- Precise position control under low speed condition .
- Longer service life .

SM Series

Functions

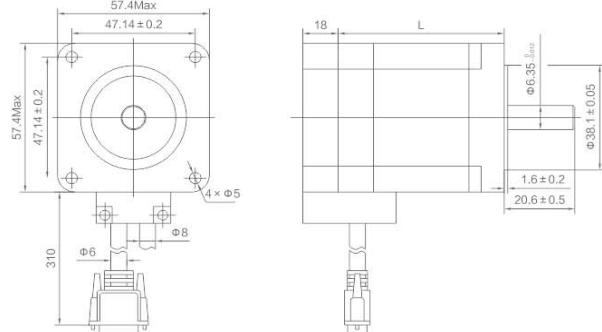
Protection	It has over current, under voltage, over voltage and tracking deviation over-dosing protection.
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Specifications

Step Accuracy	5%
Temperature	80°C Max
Storage Temperature	-20°C~50°C
Isolation resistor	500DC 1000MΩ
Pressure	500AC 1 minute
Encoder	100 Line increment model

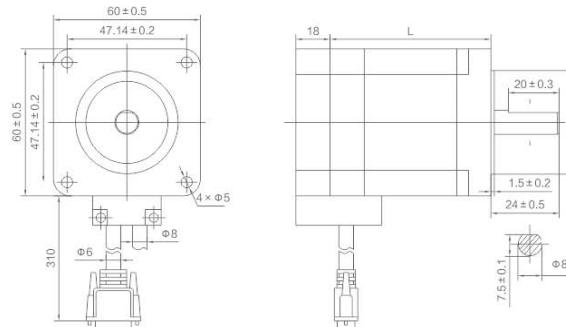
SM-57 series stepper motor parameter list (open loop motor only)

Motor Model	Step Angle	Motor Length L(mm)	Phase Voltage (V)	Phase Current (A)	Phase Resistance (Ω)	Phase Inductance (mH)	Holding Torque (N.m)	Rotational Inertia (g.cm²)	Weight (kg)
SM-57S004-020	1.8°	41	1.8	2.0	0.6	0.8	0.4	135	0.42
SM-57S009-030	1.8°	56	2.4	3.0	0.8	1.2	0.9	260	0.75



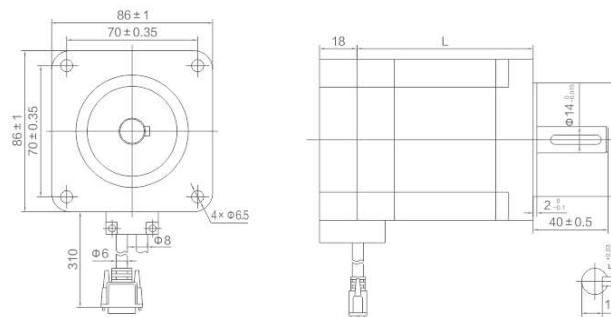
SM-60 series stepper motor parameter list (open loop and closed loop optional, closed loop stepper motor is 18mm longer than open loop stepper motor.)

Motor Model	Step Angle	Motor Length L(mm)	Phase Voltage (V)	Phase Current (A)	Phase Resistance (Ω)	Phase Inductance (mH)	Holding Torque (N.m)	Rotational Inertia (g.cm²)	Weight (kg)
SM-60S022-030	1.8°	67	3.36	3.0	1.2	4.6	2.2	590	1.20
SM-60S030-040	1.8°	88	2.8	4.0	0.7	3.5	3.0	860	1.40



SM-86 series stepper motor parameter list (open loop and closed loop optional, closed loop stepper motor is 18mm longer than open loop stepper motor.)

Motor Model	Step Angle	Motor Length L(mm)	Phase Voltage (V)	Phase Current (A)	Phase Resistance (Ω)	Phase Inductance (mH)	Holding Torque (N.m)	Rotational Inertia (g.cm²)	Weight (kg)
SM-86S045-060	1.8°	75	1.8	6.0	0.3	2.5	4.5	1400	2.40
SM-86S080-060	1.8°	113	1.44	6.0	0.42	4.6	8.0	2700	4.80
SM-86S120-060	1.8°	151	1.8	6.0	0.7	9.0	12.0	4000	5.50





PLC

EP1 Series Programmable Logic Controller (PLC)



EP1 series PLC is minitype high performance universal PLC with tiny configuration but powerful functions, those are data processing, analog processing, internet communication, high speed counting, high speed pulse output positioning control, floating-point operation and writing EEPROM order superior functions etc.

Typical Applications

- Punch Press
- Textile Machinery
- Wire Drawing
- Package Machines
- Construction
- Brick Stone Machinery
- Electronics
- Pharmacy Equipments etc.



Features

- Main module points: 16point/24point/30point/40point/60point.
- Program capacity: 12K step.
- Basic order counting speed: 0.3μs.
- High speed pulse output: 2 independent 100 kHz.
- Communication port: 1 RS232 port (program port), 1 RS232/RS485 port.
- Holding when power-off: bit register 320, word register 180, write EEPROM when power-off.
- High speed counting: single phase 6 group: 2X50kHz, 4X10kHz, AB phase 2 group: 1X30kHz, 1X5kHz.

Functions

- Support IL/LD/SFC types programming to reach control logic.
- Based on programming control logic to control machines.

EP1 Series

Specifications

Input Specifications:

Items	High-speed terminal X0~X7	Normal terminals
Signal input method		
Electrical Specifications	Detection voltage	24VDC
	Input impedance	3.3kΩ
	On input	400Ω external circuit resistance is less than
	Off output	24kΩ external circuit resistance is more than
Filter function	Digital filtering	400Ω external circuit resistance is less than has digital filtering function, filtering time can be set among 0ms, 8ms, 16ms, 32ms, 64ms
	Hardware filtering	all the terminal are hardware filtering except terminal X0~X7 and the filtering time is about 10ms
High-speed function	Terminal X0~X7 can achieve functions like high-speed counting, interrupt and pulse capture The maximum frequency of terminal X0, X1 can reach 50kHz The maximum frequency of terminal X2, X5 can reach 10kHz The sum of input frequency need to be less than 60kHz	
Common terminal	There is only one common terminal which is terminal "S/S"	

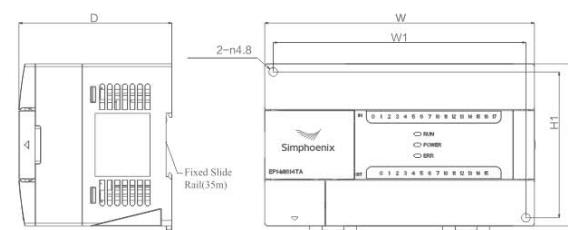
Output Specifications

Items	Relay output type	Output transistor type
Circuit source voltage	250VAC, 30VDC below	5~24VDC
Circuit isolation	Mechanical isolation of relay	Optocoupler isolation
Action indication	When the output of the relay contact close, Indicator lamp on	When the optocoupler is activated , Indicator lamp on
Open leakage current	/	0.1mA/30VDC less than 5mA (5~24VDC)
Minimum load	2mA/5VDC	
Maximum Output current	Resistor load 2A/1 point 8A/4 point group common terminal 8A/8 point group common terminal	Y0, Y1: 0.3A/1 point others: When add 1 point the total allowance will add 0.1A while it is above 8 points
	Inductive load 220VAC, 80VA	Y0, Y1: 7.2W/24VDC, others: 12W/24VDC
Response time	Inductive load 220VAC, 100W	Y0, Y1: 0.9W/24VDC, others: 1.5W/24VDC
	ON→OFF 20ms Max	Y0, Y1: 10μs others : 0.5ms
Maximum output frequency	/	Each channel 100 kHz
Output common terminal	When after Y2, every 8 terminal can use 1 common terminal at most. Each common terminal is isolated	
fuse protection	No	

Model table

Model	Power Supply Voltage (V)	Input/Output Point	Digital Input Signal Voltage	Digital Output Type	Digital Input Terminal/Public Terminal	Digital Output Terminal/Public Terminal	Analog Input Terminal	Analog Output Terminal	Interruption/Pulse Input	Pulse Output
EP1-M1006RA	AC 85 ~ 264	10/6	DC 24V	Relay	10/1	6/3	No	No	Yes	No
EP1-M1006TA	AC 85 ~ 264	10/6	DC 24V	Transistor	10/1	6/3	No	No	Yes	Yes
EP1-M1410RA	AC 85 ~ 264	14/10	DC 24V	Relay	14/1	10/3	No	No	Yes	No
EP1-M1410TA	AC 85 ~ 264	14/10	DC 24V	Transistor	14/1	10/3	No	No	Yes	Yes
EP1-M1614RA	AC 85 ~ 264	16/14	DC 24V	Relay	16/1	14/4	No	No	Yes	No
EP1-M1614TA	AC 85 ~ 264	16/14	DC 24V	Transistor	16/1	14/4	No	No	Yes	Yes
EP1-M2416RA	AC 85 ~ 264	24/16	DC 24V	Relay	24/1	16/4	No	No	Yes	No
EP1-M2416TA	AC 85 ~ 264	24/16	DC 24V	Transistor	24/1	16/4	No	No	Yes	Yes
EP1-M3624RA	AC 85 ~ 264	36/24	DC 24V	Relay	36/1	24/5	No	No	Yes	No
EP1-M3624TA	AC 85 ~ 264	36/24	DC 24V	Transistor	36/1	24/5	No	No	Yes	Yes

Installation and Dimension Figure



EP1 series PLC model	W1(mm)	W(mm)	H1(mm)	H(mm)	D(mm)	Screw
EP1-M1006RA	120.5	130				
EP1-M1006TA						
EP1-M1410RA	130.5	140				
EP1-M1410TA						
EP1-M1614RA	140.5	150				
EP1-M1614TA						
EP1-M2416RA	170.5	180				
EP1-M2416TA						
EP1-M3624RA	224.5	234				
EP1-M3624TA						M4 screw & 35mm width DIN rail

Ep1 Series I/O Expansion Module

This module is used to expand the digital point of the PLC main module, it adopt auto programing method, easy to use.



Typical Applications

- Punching machine
- Textile
- Wire drawing machine
- Packaging
- Construction machinery
- Brick machine
- Electronic equipment
- Pharmaceutical equipment



Model table

Model	Input point	Output point	Output type
EP1-E0800NN	8	—	—
EP1-E1600NN	16	—	—
EP1-E0008RN	—	8	Relay
EP1-E0008TN	—	8	Transistor
EP1-E0016RN	—	16	Relay
EP1-E0016TN	—	16	Transistor
EP1-E0808RN	8	8	Relay
EP1-E0808TN	8	8	Transistor

Specifications

Input Specifications :

Items	Dimension	
signal input method	Source/leakage type, choose via s/s terminal	
Electrical Specifications	Detection voltage	24VDC
	Maximum allowance voltage	30VDC
	Maximum surge voltage	35VDC, 0.5s
	Input Resistance	4.3kΩ
	ON voltage/current	18VDC min/3mA min each channel
	OFF voltage/current	4VDC max/1mA max
	Maximum allowable leakage current	1mA
	Filtering	Filtering time is about 8ms
	Isolation voltage	500VAC 1min

Output Specifications

Items	Output port of relay	Output port of transistor
External power supply	250VAC, 30VDC below	5~24VDC
Circuit isolation	relay mechanical isolation	optocoupler isolation
Isolation voltage	1500VAC	500VAC
Contact endurance	100000 rated load	/
Contact resistance	≤100mΩ	/
Action instruction	indicator light is on when relay output contact closed	indicator light is on when optocoupler is driven
Open leakage current	/	Less than 0.1 mA / 30 VDC
Minimum load	100mA/5VDC	5mA (5~24VDC)
Maximum Output current	Resistor load 8A/4 points group common port 8A/8 points group common port	0.3A/1 point 0.8A/4 points 1.2A/6 points 1.6A/8 points
		220VAC, 80VA
		220VAC, 100W
Response time	Inductive load lamp load	1.5W/24VDC
	ON→OFF ON→OFF	20ms maximum 20ms maximum
Common output port		0.5ms maximum 1 public terminal can connect with 8 terminals at most, and public terminals should be isolated from each other.

EP1 Series

Terminal instructions

EP1-E0800NN

Inputs terminals:

O	X1	X3	X5	X7
S/S	X0	X2	X4	X6

Air terminal:

O	O	O	O	O
O	O	O	O	O

EP1-E0016RN/EP1-E0016TN

output terminals:

Y0	Y2	COM1	Y5	Y7
COM0	Y1	Y3	Y4	Y6

output terminals:

Y10	Y12	COM3	Y15	Y17
COM2	Y11	Y13	Y14	Y16

EP1-E1600NN

Inputs terminals:

O	X1	X3	X5	X7
S/S	X0	X2	X4	X6

Air terminal:

O	X11	X13	X15	X17
S/S	X10	X12	X14	X16

EP1-E0008RN/EP1-E0008TN

Inputs terminals:

Y0	Y2	COM1	Y5	Y7
COM0	Y1	Y3	Y4	Y6

Air terminal:

O	O	O	O	O
O	O	O	O	O

EP1 Series Analog Module

EP1 series analog module is an external part of our EP1 series main PLC module which can detect voltage signal, current signal also output voltage signal and current signal. High-precision, good stability and strong anti-interference performance can fulfill lots of environment and industrial applications.



Typical Applications

- Textile
- Construction
- Injection molding
- Machinery
- Agricultural automation
- Mining

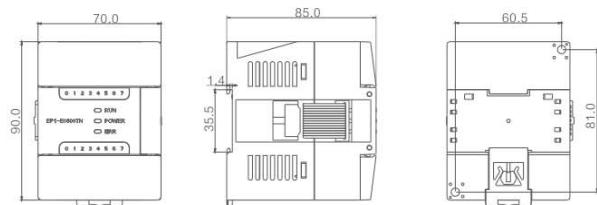


- Analog input/high-precision output
- Multi- input/output range can meet different ranging requirement.
- Good stability, good consistency and no need for calibration.
- Can correct the zero-drift and linear error of equipment like transmitter and solenoid valve by Built-in zero and full-scale setting value.

Terminal definition

Pin marking	Instruction
O	No connection
S/S	To choose input method; connect with external 24VDC positive means choose leakage method while connect with negative means another one.
Xn	Switch signal input terminal, work with terminal S/S can create input signal
COMn	Output common port
Yn	Switch signal output terminal

Dimensions(mm)



EP1 Series

Specifications

Table 1 output specifications

Items	Dimension						
	Voltage input			Current input			
A/D conversion time	1ms				1ms		
	Range	Digital Output	Resolution	Range	Digital Output	Resolution	
	0~10V	0~10000	4.88mV				
	0~5V	0~10000	2.44mV				
	0~-2.5V	0~10000	1.22mV	0~20mA	0~10000	9.77uA	
Range	0~-1V	0~10000	488uV				
	-10~-10V	-10000~-10000	9.77mV				
	-5~-5V	-10000~-10000	4.88mV				
	-2.5~-2.5V	-10000~-10000	2.44mV	-20~20mA	-10000~10000	19.53uA	
	-1~-1V	-10000~-10000	977uV				
	-0.5~-0.5V	-10000~-10000	488uV				
Precision	environment 25±5°C: 0.2%			environment 25±5°C: 0.2%			
	environment -40~-55°C: 0.5%			environment -40~-55°C: 0.5%			
Maximum absolute-input	±24VDC			±50mA			
Isolation method	Analog input and PLC: digital isolator Analog input and external 24V: DC/DC converter; Each analog channel: no isolation						

Table 2 output specifications

Items	Dimension						
	Voltage input			Current input			
A/D conversion time	1ms				1ms		
	Range	Digital Output	Resolution	Range	Digital Output	Resolution	
	0~10V	0~10000	4.88mV	0~20mA	0~10000	9.77uA	
	0~5V	0~10000	2.44mV	4~20mA	0~10000	9.77uA	
	-10~-10V	-10000~-10000	9.77mV	0~24mA	0~10000	11.72uA	
	-5~-5V	-10000~-10000	4.88mV	-	-	-	
Precision	environment 25±5°C: 0.2%			environment 25±5°C: 0.2%			
	environment -40~-55°C: 0.5%			environment -40~-55°C: 0.5%			
Maximum drive Capability	2kΩ minimum			0~20mA: 600Ω maximum 4~20mA: 600Ω maximum 0~24mA: 500Ω maximum			
Common output port	1 public terminal can connect with 8 terminals at most, and public terminals should be isolated from each other.						

Model table

Module type	Analog input channel number	Analog output channel number	Analog signal type
EPI-E4AD	4	0	Voltage, current
EPI-E4DA	0	4	Voltage, current
EPI-E2AD2DA	2	2	Voltage, current

Terminal instructions

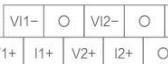
EPI-E4AD



EPI-E4DA



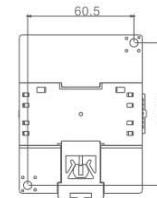
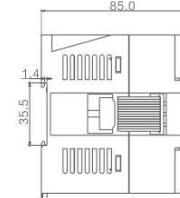
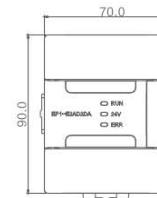
EPI-E2AD2DA



Terminal definition

Marking	Explain
24V+	External 24V positive
24V-	External 24V negative
⊕	Earth
○	No connection
VOn+	Voltage signal output port of channel no.n
ION+	Current signal output port of channel no.n
VION-	Output common port of channel no.n
Vn+	Voltage signal input port of channel no.n
In+	Voltage signal input port of channel no.n
VIn-	Input common port of channel no.n

Dimensions





EM1 Series Human Machine Interface (HMI)



EM1 series is a new generation open-type HMI of Simphoenix, adopting 400MHz high-performance 32-bit RISC CPU with friendly interface with human and machine. The easiness of learning and using for configuration programming environment with strong data communication and throughput capacity, it is applicable for textile machines, CNC tools, electric vehicles, rail transit, building automation fields etc.

Typical Applications

- Food Machinery
- Textile Machinery
- CNC Tools
- Rail Transit
- Wind Power Generation
- Electric Vehicles
- Building Automation



Features

- High-performance 32 bit RSIC processor, can support better working efficiency, and support 65536 colors for picture color display.
- Standard dual USB terminals can upload or download program, store data, and support USB terminal by mouse, keyboard, printer etc.
- SD card port can upload or download program and store data, including alarm information, recipe data etc.
- Powerful communication ability can support direct communication with most PLCs, and support Modbus protocol, user-defined protocol by using script, Ethernet communication, CANOPEN 2.0 protocol.
- Strong functions of SCADA with easy learning and easy using, and abundant gallery support C language macro script and import starting interface by customer.

EM1 Series

Functions

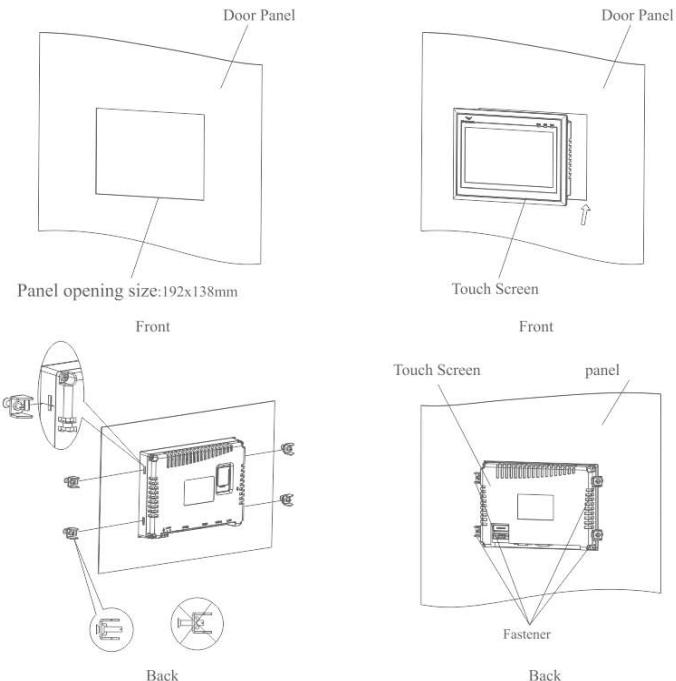
- User can make second program development by supporting platform and terminal
- User may use self-defined programming interface with machines

Specifications

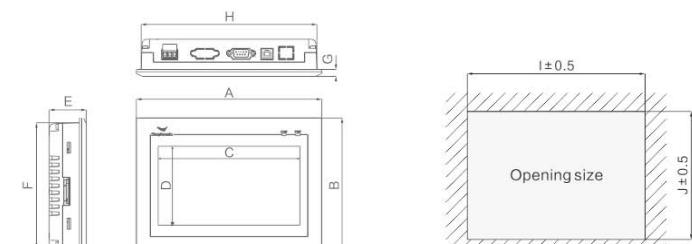
	Model	EM1-070T	EM1-070E	EM1-101T	EM1-101E
Performance Specifications	Display size	7" TFT (16:9)		10.1" TFT (16:9)	
	Resolution	800 × 480		1024 × 600	
	Display color	65536 color			
	Brightness	300cd/ m ²		250cd/m ²	
	Contrast	400:1		500:1	
	Backlight	LED			
	Touch screen	4-wire precision resistor network			
	Led lifetime	50000H			
	CPU	32bits 400MHz RISC			
	Memory	128M flash + 64M SDRAM			
	Recipe memory&RTC	512KB+clock			
	Extensible memory	No	1 USB Host 1 SD Card	No	1 USB Host 1 SD Card
	Ethernet	No	Yes	No	Yes
	Program download	USB	USB/Ethernet port	USB	USB/Ethernet port
	Communication port	COM1: RS232/RS485	COM1: RS232/RS485 COM2: RS232/RS485/RS422	COM0: RS232/RS485	COM1: RS232/RS485 COM2: RS232/RS485/RS422
Electrical Specifications	Rated power	3W		5W	
	Rated voltage	DC24V			
	Input range	DC12V ~ 28V			
	Isolation resistance	>50MΩ@500VDC			
	Hi-pot	500VAC 1minute			
Structure Specifications	Shell color	Black			
	Shell material	Fire-Prof ABS plastic			
	Dimensions	200 × 146 × 40(mm)		271 × 213 × 40(mm)	
	Opening size	192 × 138(mm)(± 0.5)		262 × 205(mm)(± 0.5)	
	Weight	0.6kg		1.2kg	
Environment Specifications	Working temperature	0~50°C			
	Working humidity	10~90%RH(non-condensing)			
	Storage temperature	-10~60°C			
	Storage humidity	10~90%RH(non-condensing)			
	Seismic degree	10~25Hz(x y z direction 2G/30 minute)			
	Cooling method	natural air cooling			
Certifications	Keypad protection grade	IP65			
	CE	EN61000-6-2:2005 EN61000-6-4:2007			
	FCC compatibility	FCC CLASS A			

Installation and Dimension Figure

Installation dimension of EM1 (7 inch (EM1070T) as example):



Dimensions(mm)



Model	A	B	C	D	E	F	G	H	I	J
EM1-070T/E	200	146	153	85	40	135.7	7.5	189.7	192	138
EM1-101T/E	271	213	222	124	40	200	7.5	256	262	205



Simphoenix

Shenzhen Simphoenix Electric Technology Co., Ltd

Note: