Simphoenix

VFD / Servo / PLC / HMI

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CONTENTS

About Simphoenix

Shenzhen Simphoenix Electric Technology Co., Ltd is a privately operated high-tech enterpris. Established in Feb. 2004, the company is committed to be a reliable industrial automation product and solution provider in China. In addition, Shenzhen Simphoenix have a wholly-owned subsidiary named Huizhou Simphoenix Electric Co., Ltd. Both Shenzhen Simphoenix and Huizhou Simphoenix will focus on the field of automation, provide customers with best products and automatic solutions.

Simphoenix is specialized in R&D, manufacturing and sales of automation control products, our main products include low voltage ac drives, servo system, PLC, HMI. Through 20 years of development, Simphoenix has developed to be one of the most professional industrial solution provider in china.

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Drive Products

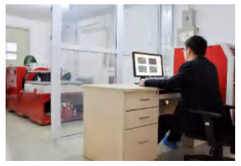
Servo and Motion Control

Industrial Control Product

PLATFORM ADVANTAGES

R&D

- 10% of annual R&D investment in business revenue.
- R&D personnel account for 25%.
- 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

- Covering an area of 29,275 ㎡
- Building area of 85,000 ㎡
- Annual production capacity of 2 million sets
- 6 automatic production lines imported from Germany
- The delivery time has been shortened to around 7 days
- Flexible manufacturing
- Reliable quality

PCBA Workshop

- Covering an area of 3,500 ㎡
- 3 SMT production lines and 1 DIP production line

E280 Series

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 monitering 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 macro parameter calling.
- Hundreds of combinations of torque and revolution.
- Programmable 16-segment speed running, indepedent 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.

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 distur-bance (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-equips 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.
	Setting Combination	Hundreds of setting combination of frequency, rotate speed, torque etc.
Unique Function	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 NPN 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)		
	Contact Output	Standard one set AC 250V/1A normal open, normal contact, able to extend 1-6 sets normal open and normal close contact.		

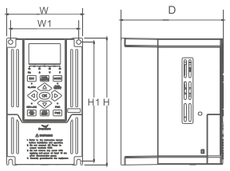
Control Characteristics	Control Mode	Closed-loop Vector Control	Open-loop Vector Control	V/F Control
	Start Torque	0 Speed 200%	0 Speed 180%	0 Speed 100%
	Speed Adjustment Range	1:1000	1:200	1:100
	Stable Speed Accuracy	±0.02%	±0.02%	±0.5%
	Torque Control Accuracy	±1%	±5%	--
	Torque Responding Time	⩽5ms	⩽25ms	--
	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 x 0.1% High frequency running mode: digital set—0.1Hz, analog set—highest frequency x 0.1%		
	Overload Capability	G type: 110%--long term; 150%--90s; 180%--2s;		
		P type: 105%--long term;		
	Carrier Wave Frequency	Three phase voltage vector combined mode: 2.0~12.0kHz; Two phase voltage vector combined mode: 2.0~15kHz; (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		

Model Table

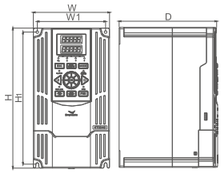
Voltage class	Model	Code	General load mode (【 F0.15 】 =0)			Load mode for fan and water pump (【 F0.15 】 =1)		
			Rated capacity (KVA)	Rated current (A)	Suitable motor (KW)	Rated capacity (KVA)	Rated current (A)	Suitable motor (KW)
Three phase 220V	E280-2T0022	000M580230022	3.8	10	2.2	–	–	–
	E280-2T0030	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	–	–	–
	E280-2T0750	000M580230750	101	265	75	–	–	–
	E280-2T0900	000M580230900	122	320	90	–	–	–
	E280-2T1100	000M580231100	145	380	110	–	–	–
	E280-2T1320	000M580231320	172	450	132	–	–	–
	E280-2T1600	000M580231600	204	535	160	–	–	–
Three phase 380V	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
	E280-4T2500G4T/2800P	000M580432500	313	475	250	352	535	280
	E280-4T2800G/4T3150P	000M580432800	352	535	280	395	600	315
	E280-4T3150G/4T3500P	000M580433150	395	600	315	428	650	350
	E280-4T3500G/4T4000P	000M580433500	428	650	480	480	730	400
	E280-4T4000G/4T4500P	000M580434000	480	720	527	527	800	450

E280 Series

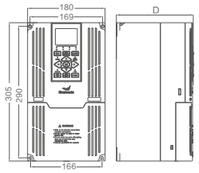
Installation and Dimension Figure



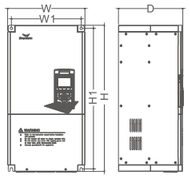
I Class applicable models:
E280-4T0011G/4T0015P
~E280-4T0040G/4T0055P



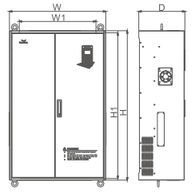
II class applicable models:
E280-4T0055G/4T0075P~E280-4T0075G/4T0090P
E280-4T0150G/4T0185P~E280-4T0300G/4T0370P
E280-2T0022~2T0040, E280-2T0075~2T0150



III Class applicable models:
E280-4T0090G/4T0110P
~E280-4T0110G/4T0150P
E280-2T0055



IV Class applicable models:
E280-4T0370G/4T0450P
E280-4T2200G/4T2500P,
E280-2T0185~2T1320



V Class applicable models:
E280-4T2500G/4T2800P
~E280-4T4000G/4T4500P
E280-2T1600

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	130	M4
E280-4T0015G/0022P	–						
E280-4T0022G/0030P	–	95	105	190	200	146	M4
E280-4T0030G/0040P	–						
E280-4T0040G/0055P	–						
E280-4T0055G/0075P	E280-2T0022	121	135	234	248	175	M4
	E280-2T0030						
E280-4T0075G/0090P	E280-2T0040	146	160	261	275	179	M5
E280-4T0090G/0110P	–	Up:169 Down:166	180	290	305	179	M5
E280-4T0110G/0150P	E280-2T0055						
E280-4T0150G/0185P	E280-2T0075	160	210	387	405	202	M6
E280-4T0185G/0220P	E280-2T0090						
E280-4T0220G/0300P	E280-2T0110	160	250	422	445	216	M8
E280-4T0300G/0370P	E280-2T0150						
E280-4T0370G/0450P	E280-2T0185	271	300	545	567	250	M8
E280-4T0450G/0550P	E280-2T0220						
E280-4T0550G/0750P	E280-2T0300						
E280-4T0750G/0900P	E280-2T0370	344	381	588	614	298	M8
E280-4T0900G/1100P	E280-2T0450	380	510	710	740	270	M8
E280-4T1100G/1320P	E280-2T0550						
E280-4T1320G/1600P	E280-2T0750						
E280-4T1600G/1850P	E280-2T0900	400	580	760	793	300	M10
E280-4T1850G/2000P	–						
E280-4T2000G/2200P	E280-2T1100	500	700	960	1000	340	M10
E280-4T2200G/2500P	E280-2T1320						
E280-4T2500G/2800P	–	580	730	1103	1130	355	M10
E280-4T2800G/3150P	E280-2T1600						
E280-4T3150G/3500P	–						
E280-4T3500G/4000P	–	600	760	1170	1200	400	M12
E280-4T4000G/4500P	–						

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 ±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.

E500 Series

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

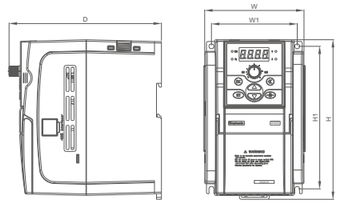
Input voltage (U1), frequency	3AC 380V ±20%, 50/60Hz 1AC 220V ±20%, 50/60Hz
Power range	3AC 380V ±20%, 0.7 kW~9.0kW 1AC 220V ±20%, 0.4kW~7.5kW
Output voltage	3AC 0~380V 3AC 0~220V
Output frequency	0.0~400.0Hz
Carrier frequency	1.5~10.0kHz (along with the power)
Control mode	SVC,V/F
Digital input/output	Standard 4 digital input (X) Standard 1 digital output (OC); Standard 1 relay output(TA-TC)
Analog input/output	Voltage input (AI) (optional 0-20ma current input mode) , 1 0-10V 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

Model Table

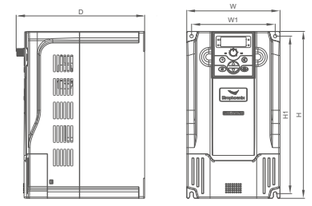
Voltage class	Model	Code	Rated capacity (KVA)	Suitable motor (KW)	Rated current (A)
Single phase 220V	E500-2S0004(B)	000M550220004(B)	1.1	0.4	3.0
	E500-2S0007(B)	000M550220007(B)	1.9	0.75	5.0
	E500-2S0015(B)	000M550220015(B)	2.9	1.5	7.5
	E500-2S0022(B)	000M550220022(B)	3.8	2.2	10.0
	E500-2S0030(B)	000M550220030(B)	5.3	3.0	14.0
	E500-2S0040(B)	000M550220040(B)	6.3	4.0	16.5
	E500-2S0055(B)	000M550220055(B)	9.5	5.5	25
	E500-2S0075(B)	000M550220075(B)	12.6	7.5	33
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
	E500-4T0055(B)	000M550430055(B)	8.6	5.5	13
	E500-4T0075(B)	000M550430075(B)	11.2	7.5	17
	E500-4T0090(B)	000M550430090(B)	13.8	9.0	21

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)/
E500-2S0015(B)~E500-2S0040(B)/
E500-4T0007(B)~E500-4T0040(B)



Class II Suitable for:
E500-2S0055(B)/E500-4T0055(B)~4T0075(B)/
E500-2S0075(B)/E500-4T0090(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)						
E500-4T0007(B)	——	86.5	101.5	147.5	165	154.5	M4
E500-4T0015(B)	E500-2S0015(B)						
E500-4T0022(B)	E500-2S0022(B)						
E500-4T0030(B)	E500-2S0030(B)	100	110	190	205	169.5	M5
E500-4T0040(B)	E500-2S0040(B)						
E500-4T0055(B)	——	121	135	234	248	186	M4
E500-4T0075(B)							
E500-4T0090(B)	E500-2S0055(B)	146	160	261	275	190	M5
	E500-2S0075(B)						

V800 Series

V800 Series High-performance Vector AC Drive

V800 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

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

Features

- Intergrated leading permanent magnet synchronous motor control algorithm.
- Low speed high torque output, 200% starting torque at 0 speed.
- Quick torque response, <5ms.
- Steady speed precision up to ±0.02%.
- Power above 3.0kw Inverter with LCD screen as standard.
- Completely new design of switch power supply, reduce failure rate.
- Optimized drive protection function.
- Optional DP, CANopen, modbus for integrated automation.
- Independent airduct design, to ensure electrical isolation.
- Fully enclosed design of electrical part, multilayer conformal coating.

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, magentic break, DC break， band type break, wakeup and sleep, temperature detection, analog I/O terminal, spindle orientation, synchronous communication, load dynamic balancing, dual parameter chanel, 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 ±0.02%; torque responding time≦5ms. 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: overcurrenct 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

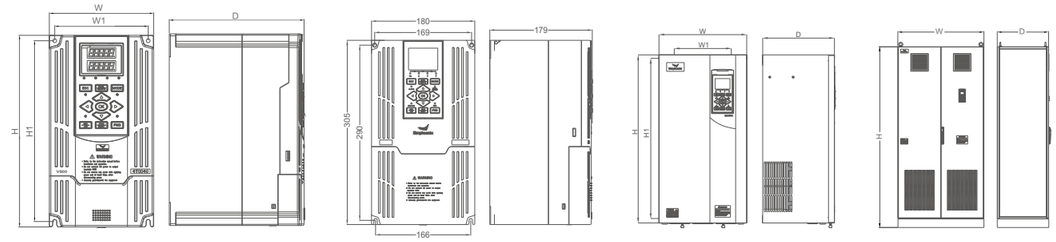
Input voltage, frequency	3AC 380V ±20%; 50/60Hz
Power range	3AC 380V ±20%; 1.1kW~800kW
Output voltage	3AC 0~380V
Ourput frequency	Low frequency mode: 0.0~300.00Hz High frequency mode: 0.0~2000.0Hz
Carrier frequency	3 phase vector synthesis: 1.5~12.0kHz
Control mode	Close-loop vector control; open-loop vector control; V/F 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	V800-4T0030G/4T0040P 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). V800-4T0040G/4T0055P 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

V800 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	V800-4T0011G/4T0015P	006M800430011	2.0	3.0	1.1	2.4	3.7	1.5
	V800-4T0015G/4T0022P	006M800430015	2.4	3.7	1.5	3.6	5.5	2.2
	V800-4T0022G/4T0030P	006M800430022	3.6	5.5	2.2	4.9	7.5	3.0
	V800-4T0030G/4T0040P	006M800430030	4.9	7.5	3.0	6.3	9.5	4.0
	V800-4T0040G/4T0055P	006M800430040	6.3	9.5	4.0	8.6	13.0	5.5
	V800-4T0055G/4T0075P	006M800430055	8.6	13.0	5.5	11.2	17.0	7.5
	V800-4T0075G/4T0090P	006M800430075	11.2	17.0	7.5	13.8	21	9.0
	V800-4T0090G/4T0110P	006M800430090	13.8	21	9.0	16.5	25	11
	V800-4T0110G/4T0150P	006M800430110	16.5	25	11	21.7	33	15
	V800-4T0150G/4T0185P	006M800430150	21.7	33	15	25.7	39	18.5
	V800-4T0185G/4T0220P	006M800430185	25.7	39	18.5	29.6	45	22
	V800-4T0220G/4T0300P	006M800430220	29.6	45	22	39.5	60	30
	V800-4T0300G/4T0370P	006M800430300	39.5	60	30	49.4	75	37
	V800-4T0370G/4T0450P	006M800430370	49.4	75	37	62.5	95	45
	V800-4T0450G/4T0550P	006M800430450	62.5	95	45	75.7	115	55
	V800-4T0550G/4T0750P	006M800430550	75.7	115	55	98.7	150	75
	V800-4T0750G/4T0900P	006M800430750	98.7	150	75	116	176	90
	V800-4T0900G/4T1100P	006M800430900	116	176	90	138	210	110
	V800-4T1100G/4T1320P	006M800431100	138	210	110	171	260	132
	V800-4T1320G/4T1600P	006M800431320	171	260	132	204	310	160
	V800-4T1600G/4T1850P	006M800431600	204	310	160	237	360	185
	V800-4T1850G/4T2000P	006M800431850	237	360	185	253	385	200
	V800-4T2000G/4T2200P	006M800432000	253	385	200	276	420	220
	V800-4T2200G/4T2500P	006M800432200	276	420	220	313	475	250
	V800-4T2500G/4T2800P	006M800432500	313	475	250	352	535	280
	V800-4T2800G/4T3150P	006M800432800	352	535	280	395	600	315
	V800-4T3150G/4T3500P	006M800433150	395	600	315	428	650	350
	V800-4T3500G/4T4000P	006M800433500	428	650	350	480	730	400
	V800-4T4000G/4T4500P	006M800434000	480	730	400	527	800	450
	V800-4T4500G/4T5000P	006M800434500	527	800	450	592	900	500
	V800-4T5000G/4T5600P	006M800435000	592	900	500	658	1000	560
	V800-4T5600G/4T6300P	006M800435600	658	1000	560	737	1120	630
	V800-4T6300G/4T7000P	006M800436300	737	1120	630	823	1225	700
	V800-4T7000G/4T8000P	006M800437000	823	1225	700	955	1450	800
	V800-4T8000G/4T9000P	006M800438000	955	1450	800	1053	1600	900

Installation and Dimension Figure



I Class applicable models:
V800-4T0011G/4T0015P~V800-4T0075G/4T0090P
V800-4T0150G/4T0185P~V800-4T0300G/4T0370P

II Class applicable models:
V800-4T0090G/4T0110P
~V800-4T0110G/4T0150P

III Class applicable models:
V800-4T0370G/4T0450P
~V800-4T3150G/4T3500P

IV Class applicable models:
V800-4T3500G/4T4000P
~V800-4T8000G/4T9000P

Inverter model (Three phase 380V)	W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	Screw
V800-4T0011G/4T0015P	87	97	152	162	130	M4
V800-4T0015G/4T0022P						
V800-4T0022G/4T0030P	95	105	190	200	146	M4
V800-4T0030G/4T0040P						
V800-4T0040G/4T0055P	121	135	234	248	175	M4
V800-4T0055G/4T0075P						
V800-4T0075G/4T0090P	146	160	261	275	179	M5
V800-4T0090G/4T0110P	Up:169 Down:166	180	290	305	179	M5
V800-4T0110G/4T0150P						
V800-4T0150G/4T0185P	160	210	387	405	202	M6
V800-4T0185G/4T0220P						
V800-4T0220G/4T0300P	160	250	422	445	216	M8
V800-4T0300G/4T0370P						
V800-4T0370G/4T0450P	160	260	483	500	250	M8
V800-4T0450G/4T0550P	200	300	558	567	250	M8
V800-4T0550G/4T0750P						
V800-4T0750G/4T0900P	240	340	700	720	280	M10
V800-4T0900G/4T1100P						
V800-4T1100G/4T1320P	300	400	700	720	280	M10
V800-4T1320G/4T1600P						
V800-4T1600G/4T1850P	300	450	860	890	350	M10
V800-4T1850G/4T2000P	450	580	925	950	380	M12
V800-4T2000G/4T2200P						
V800-4T2200G/4T2500P						
V800-4T2500G/4T2800P	500	640	1240	1265	400	M12
V800-4T2800G/4T3150P						
V800-4T3150G/4T3500P						
V800-4T3500G/4T4000P	—	900	—	2100	600	—
V800-4T4000G/4T4500P						
V800-4T4500G/4T5000P	—	1000	—	2100	600	—
V800-4T5000G/4T5600P						
V800-4T5600G/4T6300P	—	1200	—	2100	600	—
V800-4T6300G/4T7000P						
V800-4T7000G/4T8000P						
V800-4T8000G/4T9000P						

DL100 Series

DL100 Series Universal Low-power AC Drive

DL100 series is a small general-purpose inverter developed based on a new software and hardware platform to meet more market needs. It has the characteristics of small size, simple operation, complete protection functions, stable and reliable operation, and can be flexibly applied to various process sites.

Typical Applications

- Food Machinery
- Engraving Machine
- Textile machinery
- Package and Transport
- Machine Tool applications
- Centrifuges

Features

- Based on new hardware platform, high reliability with stringent test
- High frequency can reach 600.00Hz, and the frequency control accuracy controlled within 0.1%
- 4 multi-function input terminals, up to 12 channel combinations, to achieve flexible parameters control
- Multiple protection functions and fault checking mechanisms are convenient for later maintenance
- Support the monitoring of nearly hundreds of parameters such as power, running time, input/output current and voltage, fault record in real time
- Programmable 7-segment speed operation, each segment's running time, acceleration/deceleration time, and running direction are independently adjustable
- Equipped with RS485 communication interface, standard MODBUS protocol can easily realize real-time communication with PLC, industrial computer and other equipment, and has the function of linkage and synchronization control
- Supports adaptive control technology, automatic voltage stabilization and current limiting functions, stable operation even in an environment with unstable grid voltage and current

Functions

Features	Simple PLC function, multi-speed operation, custom V/F curve, definition of various terminal functions, RS485 communication, communication linkage
Control feature	VVVF space voltage vector Loading-capacity: 110%--long term; 150%--60s; 180%--2s
Protection	Operation protection: overcurrent protection, overvoltage protection, undervoltage protection, inverter overheating protection, inverter overload protection, motor overload protection, short circuit protection

Note: In the case of sudden acceleration and deceleration and heavy load, please choose other vector inverters

Specifications

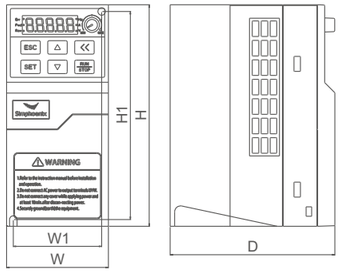
Input voltage(U1), frequency	3AC 380V~415V ±10%; 50/60Hz 1AC 220V~240V ±10%; 50/60Hz
Power range	3AC 380V 0.7kW~7.5kW 1AC 220V 0.4kW~4kW
Output voltage U2	0~U1
Ourput frequency	0.0~400.00Hz
Carrier frequency	2.0~8.0kHz
Control mode	V/F control
Digital output/input	Standard 4 digital input (X), Standard 1 digital output (OC) Standard 1 relay output (TA-TC)
Analog input/output	0~10V voltage input(AI1); (0~20mA current input mode available) 1 0~10V analog output signal (AO), Upper and lower limits can be set separately
communication interface	RS485 communication interface, MODBUS protocol, user-difined protocol
Braking unit	DL100(B) Standard with braking unit
Peripheral interface	Provide 2 channels of power supply, 1 channel is +10V/10mA, the other is + 24V/50mA
Protection class	IP20
Design Criterion	IEC61800-3, IEC61800-5

DL100 Series

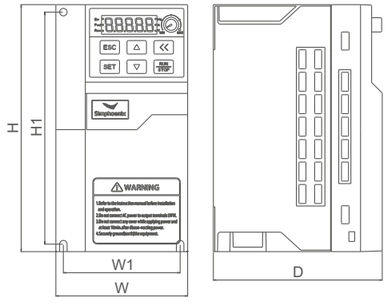
Model Table

Voltage class	Model	Rated capacity (KVA)	Suitable motor (KW)	Rated current (A)
Single phase 220V	DL100-2S0004(B)Q	1.1	0.4	3.0
	DL100-2S0007(B)Q	1.9	0.75	5.0
	DL100-2S0015(B)Q	2.9	1.5	7.5
	DL100-2S0022(B)Q	3.8	2.2	10.0
	DL100-2S0030(B)Q	5.3	3.0	14.0
	DL100-2S0040(B)Q	6.3	4.0	16.5
Three phase 380V	DL100-4T0007(B)Q	1.6	0.75	2.5
	DL100-4T0015(B)Q	3.0	1.5	4.5
	DL100-4T0022(B)Q	3.6	2.2	5.5
	DL100-4T0040(B)Q	6.3	4.0	9.5
	DL100-4T0055(B)Q	8.6	5.5	13
	DL100-4T0075(B)Q	11.2	7.5	17

Installation and Dimension Figure



Class I and II
DL100-2S0004(B)Q~DL100-2S0015(B)Q
DL100-4T0007(B)Q~ DL100-4T0015(B)Q



Class III
DL100-2S0022(B)Q~ DL100-2S0040(B)Q
DL100-4T0022(B)Q~ DL100-4T0075(B)Q

Inverter model (Three phase 380V)	Inverter model (Single phase 220V)	W1(mm)	W(mm)	H1(mm)	H(mm)	D(mm)	Screw
--	DL100-2S0004(B)Q	59	68	139	148	110	M4
DL100-4T0007(B)Q	DL100-2S0007(B)Q						
DL100-4T0015(B)Q	DL100-2S0015(B)Q						
DL100-4T0022(B)Q	DL100-2S0022(B)Q	78	88	155	165	113	M4
DL100-4T0040(B)Q	DL100-2S0030(B)Q						
DL100-4T0055(B)Q	DL100-2S0040(B)Q	99	109	199	209	135	M4
DL100-4T0075(B)Q	--						

DL300 Series Open-loop Vector AC Drive

This is a super small ac drive with elegant appearance and excellent performance, continued the control algorithm of Simphoenix high-end inverter, support asynchronous motor VF and open-loop vector, permanent magnet synchronous motor open-loop vector control, and flexible parameter configuration. It is a vector inverter with superior performance and complete protection functions.

Typical Applications

- Food packaging
- Woodworking
- Engraving machine
- Photovoltaic energy

Features

- -Based on the new hardware platform, the product has passed stringent testing standards and has higher reliability
- -High frequency can reach 1000Hz, and the frequency control accuracy is controlled within 0.1%
- -Starting torque: 0 speed 180%; Speed range:1:200
- -Programmable 7-segment speed operation, each segment's running time, acceleration/deceleration time, and running direction are independently
- -4 multi-function input terminals, up to 12 channel combinations, to achieve flexible control parameters
- -Automatic voltage regulation and automatic current limiting function, in the environment where the grid voltage and current are unstable, the output voltage can be quickly stabilized and the output current of the inverter can be controlled

DL300 Series

Functions

Features	Simple PLC function, multi-speed operation, customized V/F curve, multiple terminal function definitions, RS485 communication, communication linkage
Control feature	VF control; open loop vector control Load capacity: Universal load mode: 110%--long term; 150%--60s; 180%--2s Stable light load mode: 105%--long term;
Protection	Operation protection: overcurrent, overvoltage, undervoltage, overheating, short circuit, output phase loss, internal memory failure, etc.

Note: In the case of sudden acceleration and deceleration and heavy load, please choose other vector inverters

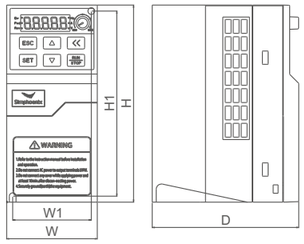
Specifications

Input voltage(U1), frequency	3AC 380V~415V ±10%; 50/60Hz 1AC 220V ±10%; 50/60Hz
Power range	3AC 380V 1.1kW~15.0kW 1AC 220V 0.7kW~4.0kW
Output voltage U2	0~input voltage
Ourput frequency	Low frequency 0.0~300.00Hz High frequency 0.0~1000.0Hz
Carrier frequency	Low frequency 2.0~8.0kHz High frequency 2.0~12kHz
Control mode	V/F control; open-loop vector control
Digital output/input	Standard 4 digital input (X), Standard 1 digital output (OC) Standard 1 relay output (TA-TC)
Analog input/output	DC voltage 0~10V, DC current 0~20mA optional; 1 channel 0~10V voltage signal, upper and lower limits can be limited respectively
communication interface	MODBUS protocol
Start and stop characteristics	DC pre-excitation, stop DC braking, action time and action current can be set
Flux braking	It can be set by increasing the motor magnetic flux (0~100%) to achieve rapid motor braking.
Multi speed control	7-segment programmable multi-segment speed control, 5 operating modes available
Protection class	IP20
Design Criterion	IEC61800-2, IEC61800-3, IEC61800-5

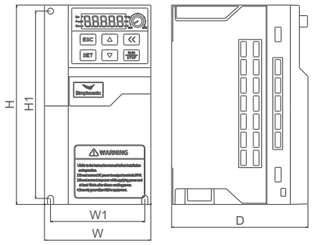
Model Table

Model	General load mode			Steady light load		
	Rated capacity (kVA)	Output current (A)	Suitable motor (kW)	Rated capacity (kVA)	Output current (A)	Suitable motor (kW)
DL300-2S0007	1.9	5.0	0.75	––	––	––
DL300-2S0015	2.9	7.5	1.5	––	––	––
DL300-2S0022	3.8	10.0	2.2	––	––	––
DL300-2S0030	5.3	14.0	3.0	––	––	––
DL300-2S0040	6.3	16.5	4.0	––	––	––
DL300-4T0011G/4T0015P	2.0	3.0	1.1	2.4	3.7	1.5
DL300-4T0015G/4T0022P	2.4	3.7	1.5	3.6	5.5	2.2
DL300-4T0022G/4T0040P	3.6	5.5	2.2	6.3	9.5	4.0
DL300-4T0040G/4T0055P	6.3	9.5	4.0	8.6	13.0	5.5
DL300-4T0055G/4T0075P	8.6	13.0	5.5	11.2	17.0	7.5
DL300-4T0075G/4T0110P	11.2	17.0	7.5	16.5	25	11
DL300-4T0110G/4T0150P	16.5	25	11	21.7	33	15
DL300-4T0150G/4T0185P	21.7	33	15	25.7	37	18.5

Installation and Dimension Figure



Class I
DL300-4T0011G/4T0015P~
DL300-4T0015G/4T0022P
DL300-2S007~2S0015



Class Ⅱ, Ⅲ and Ⅳ
DL300-4T0022G/4T0040P~
DL300-4T0150G/4T0185P
DL300-2S0022~2S0040

Model (Three phase 380V)	Model (Single phase 220V)	W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	Screw specification
DL300-4T0011G/4T0015P	DL300-2S0007	59	68	139	148	110	M4
DL300-4T0015G/4T0022P	DL300-2S0015						
DL300-4T0022G/4T0040P	DL300-2S0022	78	88	155	165	113	M4
DL300-4T0040G/4T0055P	DL300-2S0030						
DL300-4T0055G/4T0075P	DL300-2S0040	99	109	199	209	135	M4
DL300-4T0075G/4T0110P	––						
DL300-4T0110G/4T0150P	––	134	146	235	249	155	M5
DL300-4T0150G/4T0185P	––						

DX100 Series

DX100 Series Universal Low-power AC Drive

DX100 series is a universal open-loop vector inverter developed based on a new software and hardware platform. It has the characteristics of high performance, compact size, rich functions, convenient debugging, complete protection, and wide coverage of the power range of the model. It can be widely used in machine tool spindles, wood carving, glass edging, textile machinery, cable machinery and other automation equipment.

Typical Applications

- Machine tool
- Cable Petrochemical
- Textile machinery
- Food packaging
- Elution equipment
- Centrifuges

Features

- Small and compact design improves the utilization of installation space
- Linkage synchronization control function
- Various control algorithms such as V/F ,current open-loop vector SVC
- Various frequency setting channels and start and stop methodsH
- Hundreds of combinations of frequency, speed, torque and other settings
- Simple programmable multi-stage operation
- Maximum operating frequency is 1500hz, which can easily meet the needs of industries such as cutting, engraving and milling.
- Easily set and solidify common parameters in many industries
- 16-channel virtual I/O interface simplifies the external wiring, and you face the possibility of the control circuit being disturbed
- Built-in PID controller, with the selection of frequency given channel, users can easily realize the automatic adjustment of process control

Functions

Feature	DC braking/holding brake, magnetic flux braking, dynamic braking, power failure restart, start delay, start enable enable, run enable enable, overcurrent suppression, overvoltage/undervoltage suppression, analog input disconnection detection , input curve correction, virtual I/O port, timer, counter, macro parameter, communication linkage synchronization, strong starting torque, frequency/speed channel priority setting
Control feature	Open-loop vector control; V/F control; close-loop vector control(supported by models above DX100-4T0110) loading-capacity: 110%--long-term, 150% --60s, 180% --2.5s
Protection	Power supply: three-phase unbalance protection; Operation protection: overcurrent protection, overvoltage protection, overheating protection, inverter overload protection, motor overload Protection, output phase loss protection, module drive protection; Equipment abnormalities: abnormal current detection, abnormal EEPROM memory, abnormal control unit, motor overheating, Abnormal input signal, temperature acquisition loop failure; Motor connection: the motor is not connected, the three-phase parameters of the motor are unbalanced, and the parameter identification is wrong; Expansion card: Expansion card conflict and compatibility detection and protection

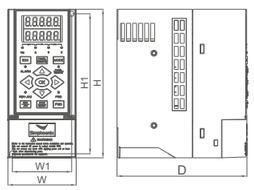
Specifications

Input voltage, frequency	3AC 380V ±10%; 50/60Hz	3AC 220V ±10%; 50/60Hz
Power range	3AC 380V ±10%; 1.1kW~350kW	3AC 220V ±10%; 0.75kW~4.0kW
Output frequency	Low frequency mode: 0.0~300.00Hz High frequency mode: 0.0~1500.0Hz	
Carrier frequency	3 phase vector synthesis: 1.5~8.0kHz 2 phase vector synthesis: 1.5~12.0kHz(change with power segment)	
Control mode	open-loop vector control; V/F control	
Digital output/input	Standard 5 digital input (DI) DX100-4T0110 and above models: Can be expanded to 16 channels (with optional expansion components) 2 digital output (DO)	
Pulse input/output	0.0~100.0kHz pulse input, OC and 0~24V level signal can be received(optional) 0.0~100.0kHz pulse output (optional)	
Analog input/output	Standard configuration: 0 ~ 10V voltage input / 0 ~ 20mA current input Optional configuration: -10 ~ 10V input (4T0110 and above) 1-channel 0 ~ 10V analog output signal (can be selected as 0 ~ 20mA current output mode)	
Protocol	MODBUS protocol, profibus-DP, CANopen protocol	
Peripheral interface	Provide two-way power supply, 1-way +10V/10mA or +5V/50mA, 1-way 24V/100mA	
Install	Wall mounted	
Protection class	IP20	
Certificate	CE	

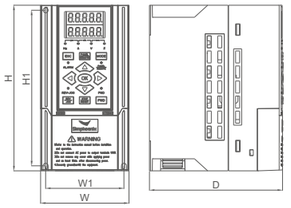
Model Table

voltage clasee	model	rated capacity（KVA）	adapter motor（kW）	rated output current（A）
single phase 220V	DX100-2S0007(B)Q	1.9	0.75	5.0
	DX100-2S0015(B)Q	2.9	1.5	7.5
	DX100-2S0022(B)Q	3.8	2.2	10.0
	DX100-2S0030(B)Q	5.3	3.0	14.0
	DX100-2S0040(B)Q	6.3	4.0	16.5
three phase 380V~ 415V(±10%)	DX100-4T0011(B)Q	2.0	1.1	3.0
	DX100-4T0015(B)Q	2.4	1.5	3.7
	DX100-4T0022(B)Q	3.6	2.2	5.5
	DX100-4T0040(B)Q	6.3	4.0	9.5
	DX100-4T0055(B)Q	8.6	5.5	13.0
	DX100-4T0075(B)Q	11.2	7.5	17.0
	DX100-4T0110Q	16.5	11	25
	DX100-4T0150Q	21.7	15	33
	DX100-4T0185Q	25.7	18.5	39
	DX100-4T0220Q	29.6	22	45
	DX100-4T0300Q	39.5	30	60
	DX100-4T0370Q	49.4	37	75
	DX100-4T0450Q	62.5	45	95
	DX100-4T0550Q	75.7	55	115
	DX100-4T0750Q	98.7	75	150
	DX100-4T0900Q	116	90	176
	DX100-4T1100Q	138	110	210
	DX100-4T1320Q	171	132	260
	DX100-4T1600Q	204	160	310
	DX100-4T1850Q	237	185	360
	DX100-4T2000Q	253	200	385
	DX100-4T2200Q	276	220	420
	DX100-4T2500Q	313	250	475
	DX100-4T2800Q	352	280	535
	DX100-4T3150Q	395	315	600
	DX100-4T3500Q	428	350	650

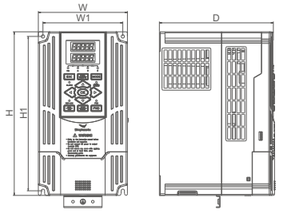
Mounting dimension



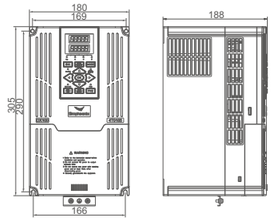
Class Ⅰ applicable model
DX100-2S0007(B)Q~ DX100-2S0015(B)Q
DX100-4T0011(B)Q~ DX100-4T0015(B)Q



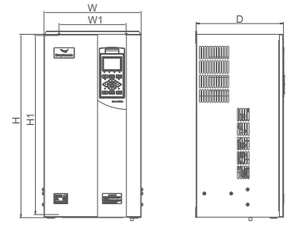
Class Ⅱ applicable model
DX100−2S0022(B)Q~ DX100−2S0040(B)Q
DX100−4T0022(B)Q~ DX100−4T0075(B)Q



Class Ⅱ applicable model
DX100−4T0110Q~DX100−4T0450Q



Note :two special models :
DX100-4T0185Q~DX100-4T0220Q



Class Ⅳ applicable model
DX100-4T0550Q~DX100-4T3500Q

model	W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	screw specification
DX100-2S0007(B)Q	59	68	139	148	130	M4
DX100-2S0015(B)Q						
DX100-4T0011(B)Q						
DX100-4T0015(B)Q						
DX100-2S0022(B)Q	78	88	155	165	133	M4
DX100-2S0030(B)Q						
DX100-4T0022(B)Q						
DX100-4T0040(B)Q						
DX100-2S0040(B)Q	99	109	199	209	155	M4
DX100-4T0055(B)Q						
DX100-4T0075(B)Q						
DX100-4T0110Q	121	135	234	248	175	M4
DX100-4T0150Q	146	160	261	275	179	M5
DX100-4T0185Q	169	180	290	305	188	M5
DX100-4T0220Q	166					
DX100-4T0300Q	160	210	387	405	211	M6

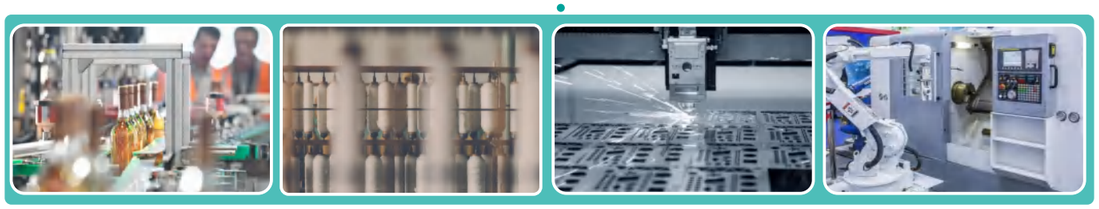
model	W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	screw specification
DX100-4T0370Q	160	250	428	445	216	M8
DX100-4T0450Q						
DX100-4T0550Q	200	290	525	545	260	M8
DX100-4T0750Q						
DX100-4T0900Q	230	330	603	625	280	M10
DX100-4T1100Q						
DX100-4T1320Q	280	380	760	785	300	M10
DX100-4T1600Q						
DX100-4T1850Q	320	450	919	945	300	M10
DX100-4T2000Q						
DX100-4T2200Q						
DX100-4T2500Q	350	480	1022	1050	300	M12
DX100-4T2800Q	480	550	1116	1145	300	M12
DX100-4T3150Q						
DX100-4T3500Q						

DX500 Series High Performance Close-loop Vector AC Drive

DX500 is a new generation of market-oriented closed-loop vector inverter created by Simphoenix Electric. Its compact body makes assembly easier and can cover more customers who have requirements for machine structure. At the same time, DX500 fully inherits the closed-loop vector, open-loop vector, and V/F control algorithms of our high-end inverters, as well as flexible parameter configuration, rich and diverse expansion interfaces, and hundreds of warnings and alarms. It is a product with superior performance and protection functions, complete range of high-performance closed-loop vector inverters.

Typical Applications

- Machine tool
- Textile machinery
- Food packaging
- Elution equipment



Features

- The closed-loop vector mode has a steady speed accuracy of 0.02% and a starting torque of 200% at zero speed.
- With 8 channels of one-to-one virtual output and input ports, complex engineering field applications can be easily realized without external wiring.
- Easily achieve synchronous transmission of multiple machines and can freely choose to achieve linkage balance of multiple machines based on current, torque and power.
- Intuitive real-time monitoring can monitor nearly a hundred monitoring parameters such as power usage, running time, input and output current and voltage, fault records, etc.
- Users can freely select the priority order of various frequency/speed setting channels, which is suitable for combination applications in various occasions.
- There are hundreds of setting combinations for frequency, speed, torque, etc.
- 3 built-in timers, 5 types of clocks, and 2 built-in counters can solve various complex timing and counting needs.
- Excellent operating experience, the operation panel adopts ergonomic design to realize functions such as parameter locking, unlocking, parameter downloading and uploading, and there are a variety of operation panel options to meet the needs of various customers.

DX500 Series

Functions

Feature	power failure restart, fault self-recovery, speed tracking and re-identification, motor parameter dynamic/static self-identification, operation permission enable, start delay, over-current suppression, over-voltage/under-voltage suppression, analog input curve correction, wire break detection, textile Mechanical disturbance (swing frequency) operation, magnetic flux braking, DC braking/braking, sleep wake-up, temperature detection, virtual I/O, spindle indexing positioning, zero-speed torque maintenance, communication linkage synchronization, load dynamic balancing, dual Motor parameters, timers; counters, macro parameters, strong starting torque
Control feature	Closed-loop vector control: 0 speed 200% starting torque, speed adjustment range 1:1000, steady speed accuracy ±0.02%, torque control accuracy ±1%, torque response time ≤5ms Load capacity: Universal load mode: 110%--long term; 150%--60s; 180%--5s Stable load mode: 105%--long term; 120%--60s; 150%--1s
Protection	Power supply: three-phase power unbalance protection; Operation protection: over-current protection, over-voltage protection, inverter overheating protection, inverter overload protection, motor overload protection, output phase loss protection, module drive protection; Equipment abnormality: current detection abnormality, EEPROM memory abnormality, control unit abnormality, motor overheating, input signal abnormality, temperature acquisition circuit failure; Motor connection: motor not connected, motor three-phase parameter imbalance, parameter identification error; Expansion card: expansion card conflict and compatibility detection and Protect

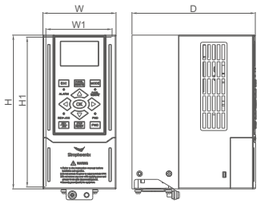
Specifications

Input voltage(U1), frequency	Single–phase (2S # series) 220V (±10%) 50/60Hz (± 5%) Three-phase (4T # series) 380V~415V (± 10%) 50/60Hz (± 5%)
Input voltage	0~input voltage
Output frequency	Low frequency mode: 0.0~300.00Hz High frequency mode: 0.0~2000.0Hz
Carrier frequency	2 phase vector synthesis: 1.5~12.5kHz 3 phase vector synthesis: 1.5~12.0kHz(high frequency mode can reach 15kHz)
Control mode	Closed-loop vector control; open-loop vector control; V/F control; torque control; V/F separation control
Digital output/input	5 digital inputs (DI) are standard, DX500-4T0055G/4T0075P and above models: expandable to 16 channels (optional expansion components) Standard 2 digital outputs (DO)
Pulse input/output	0.0~100.0kHz pulse input, OC and 0~24V level signal can be received(optional) 0.0~100.0kHz pulse output (optional)
Analog input/output	Standard configuration: 0~10V voltage input (AI1); 0~20mA current input (AI2) Standard expansion I/O card: - 10V~10V voltage input 1 channel of 0~10V analog output signal (0~20mA current output mode can be selected)
Protocol	Standard MODBUS communication protocol (optional), flexible parameter reading and writing mapping function
Braking unit	standard for DX 500-4T0220G/4T0300P and below models) Operating voltage: 650~760V, braking rate: 50~100%
Install	Wall-mounted installation (optional cabinet installation)
Protection class	IP20
Certificate	CE

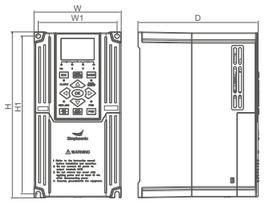
Model Table

Voltage Level	Model	Universal load pattern			Steady load mode		
		Rated Capacity (KVA)	Rated output current (A)	Adapted motor (kW)	Rated Capacity (KVA)	Rated output current (A)	Adapted motor (kW)
single phase 220V (±10%)	DX500-2S0007Q	1.9	5.0	0.75	-	-	-
	DX500-2S0011Q	2.5	6.5	1.1	-	-	-
	DX500-2S0015Q	2.9	7.5	1.5	-	-	-
	DX500-2S0022Q	3.8	10.0	2.2	-	-	-
Three phase 380V~ 415V(±10%)	DX500-4T0011G/4T0015PQ	2.0	3.0	1.1	2.4	3.7	1.5
	DX500-4T0015G/4T0022PQ	2.4	3.7	1.5	3.6	5.5	2.2
	DX500-4T0022G/4T0030PQ	3.6	5.5	2.2	4.9	7.5	3.0
	DX500-4T0030G/4T0040PQ	4.9	7.5	3.0	6.3	9.5	4.0
	DX500-4T0040G/4T0055PQ	6.3	9.5	4.0	8.6	13.0	5.5
	DX500-4T0055G/4T0075PQ	8.6	13.0	5.5	11.2	17.0	7.5
	DX500-4T0075G/4T0090PQ	11.2	17.0	7.5	13.8	21	9.0
	DX500-4T0090G/4T0110PQ	13.8	21	9.0	16.5	25	11
	DX500-4T0110G/4T0150PQ	16.5	25	11	21.7	33	15
	DX500-4T0150G/4T0185PQ	21.7	33	15	25.7	39	18.5
	DX500-4T0185G/4T0220PQ	25.7	39	18.5	29.6	45	22
	DX500-4T0220G/4T0300PQ	29.6	45	22	39.5	60	30
	DX500-4T0300G/4T0370PQ	39.5	60	30	49.4	75	37
	DX500-4T0370G/4T0450PQ	49.4	75	37	62.5	95	45
	DX500-4T0450G/4T0550PQ	62.5	95	45	75.7	115	55
	DX500-4T0550G/4T0750PQ	75.7	115	55	98.7	150	75
	DX500-4T0750G/4T0900PQ	98.7	150	75	116	176	90
	DX500-4T0900G/4T1100PQ	116	176	90	138	210	110
	DX500-4T1100G/4T1320PQ	138	210	110	171	260	132
	DX500-4T1320G/4T1600PQ	171	260	132	204	310	160
	DX500-4T1600G/4T1850PQ	204	310	160	237	360	185
	DX500-4T1850G/4T2000PQ	237	360	185	253	385	200
	DX500-4T2000G/4T2200PQ	253	385	200	276	420	220
	DX500-4T2200G/4T2500PQ	276	420	220	313	475	250
	DX500-4T2500G/4T2800PQ	313	475	250	352	535	280
	DX500-4T2800G/4T3150PQ	352	535	280	395	600	315
	DX500-4T3150G/4T3500PQ	395	600	315	424	645	350
	DX500-4T3500G/4T4000PQ	428	650	350	480	730	400
	DX500-4T4000G/4T4500PQ	480	730	400	527	800	450

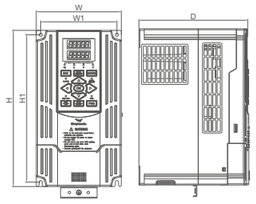
Mounting dimension



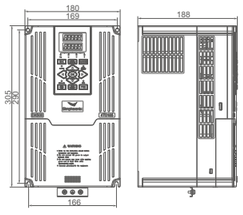
Class Ⅰ applicable model:
DX500-4T0011G/4T0015PQ



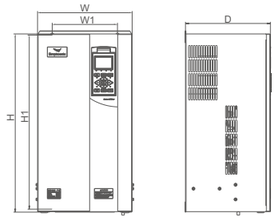
Class Ⅱ applicable model:
DX500-2S0007Q~DX500-2S0022Q
DX500-4T0015G/4T0022PQ~DX500-4T0040G/4T0055PQ



Class Ⅲ applicable model:
DX500-4T0055G/4T0075PQ~
DX500-4T0370G/4T0450PQ



Note :two special models:
DX500-4T0150G/4T0185PQ
DX500-4T0185G/4T0220PQ



Class Ⅳ applicable model:
DX500-4T0450G/4T0550PQ~DX500-4T3150G/4T3500PQ

Inverter model		W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	screw specification
DX500-4T0011G/4T0015PQ		67	77	152	162	130	M4
DX500-2S0007Q	DX500-4T0015G/4T0022PQ	87	97	152	162	130	M4
DX500-2S0011Q	DX500-4T0022G/4T0030PQ						
DX500-2S0015Q	DX500-4T0030G/4T0040PQ	95	105	190	200	146	M4
DX500-2S0022Q	DX500-4T0040G/4T0055PQ						
DX500-4T0055G/4T0075PQ		121	135	234	248	175	M4
DX500-4T0075G/4T0090PQ							
DX500-4T0090G/4T0110PQ		146	160	261	275	179	M5
DX500-4T0110G/4T0150PQ							
DX500-4T0150G/4T0185PQ		169 166	180	290	305	188	M5
DX500-4T0185G/4T0220PQ							
DX500-4T0220G/4T0300PQ		160	210	387	405	211	M6
DX500-4T0300G/4T0370PQ		160	250	428	445	216	M6
DX500-4T0370G/4T0450PQ							
DX500-4T0450G/4T0550PQ		200	290	525	545	260	M8
DX500-4T0550G/4T0750PQ							
DX500-4T0750G/4T0900PQ		230	330	603	625	280	M10
DX500-4T0900G/4T1100PQ							
DX500-4T1100G/4T1320PQ		280	380	760	785	300	M10
DX500-4T1320G/4T1600PQ							
DX500-4T1600G/4T1850PQ		320	450	919	945	300	M10
DX500-4T1850G/4T2000PQ							
DX500-4T2000G/4T2200PQ							
DX500-4T2200G/4T2500PQ		350	480	1022	1050	300	M12
DX500-4T2500G/4T2800PQ							
DX500-4T2800G/4T3150PQ		480	550	1116	1145	300	M12
DX500-4T3150G/4T3500PQ							
DX500-4T3500G/4T4000PQ		500	670	1173	1200	350	M12
DX500-4T4000G/4T4500PQ							

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 fetures,our new breaking unit can work more smoothly and more stable.

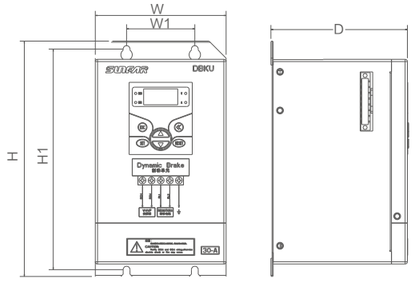
Specifications

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 lasting 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)		Minimun breaking resistor(R)	Breaking resistor power (breaking frequentness=50%)
				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						

Operation panel

Serial	Name	Model	Code	Models	Remarks
1	Single LED standard keypad	DPNL300EES	050M007031301	E500	E0313, Standard1.5 meter line
2	Single LED Medium Keypad	DPNL301EFS	050M007031401	E500	E0314, Standard1.5 meter line
3	Single LED mini Keypad	DPNL302EMS	050M007031801	E500	E0318, Standard1.5 meter line
4	LCD Button Keypad	DPNL360CA	050M007360001	DX/V/E280	E0327, Standard1.5 meter line
5	LCD Shuttle Keypad	DPNL360CB	050M007360002	DX/V/E280	E0328, Standard1.5 meter line
6	Double LED Button Keypad	DPNL360EA	050M007360003	DX/V/E280	E0315, Standard1.5 meter line
7	Double LED Shuttle Keypad	DPNL360EB	050M007360004	DX/V/E280	E0316, Standard1.5 meter line
8	Double LED Button Mini Keypad	DPNL350EM	050M007033701	DX/V/E280	E0337, Standard1.5 meter line
9	Double LED Potentiometer Keypad	DPNL350EN	050M007033601	DX/V/E280	E0336, Standard1.5 meter line
10	LCD Small Button Keypad	DPNL350CM	050M007035000	DX/V/E280	E0358, Standard1.5 meter line

E500 Series

1. Single LED standard keypad
DPNL300EES

Base External installation Figure 5
No Base External installation Figure 6

2. Single LED Medium Keypad DPNL301EFS
(Only for External connection)

No Base External installation Figure 1

3. Single LED mini Keypad
DPNL302EMS

Base External installation Figure 7

DX Series/V Series/E280 Series

4. LCD Button Keypad
DPNL360CA

Base External installation Figure 2
No Base External installation Figure 3

5. LCD Wheel Keypad
DPNL360CB

Base External installation Figure 2
No Base External installation Figure 3

6. Double LED Button Keypad
DPNL360EA

Base External installation Figure 2
No Base External installation Figure 3

7. Double LED Wheel Keypad
DPNL360EB

Base External installation Figure 2
No Base External installation Figure 3

8. Double LED Button Mini Keypad
DPNL350EM

No Base External installation Figure 4

9. Double LED Potentiometer Keypad
DPNL350EN

No Base External installation Figure 4

10. LCD Small Button Keypad
DPNL350CM

No Base External installation Figure 4

Hole dimension

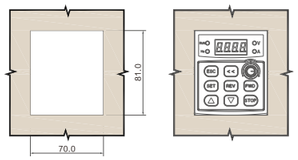


Figure 1

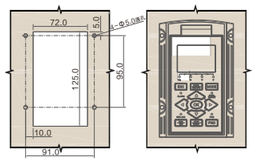


Figure 2

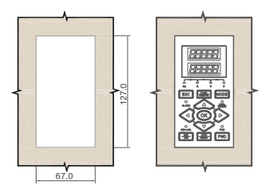


Figure 3

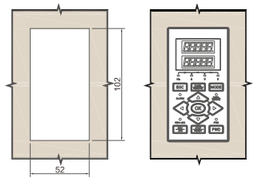


Figure 4

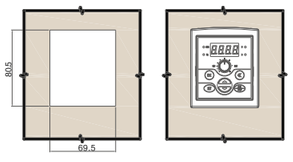


Figure 5

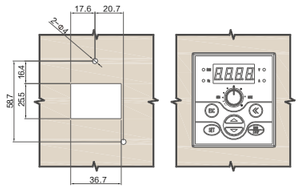


Figure 6

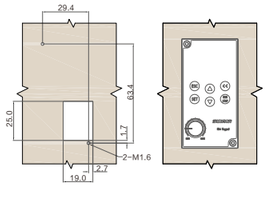


Figure 7

Note: the thickness of open sheet metal is not more than 2.0mm

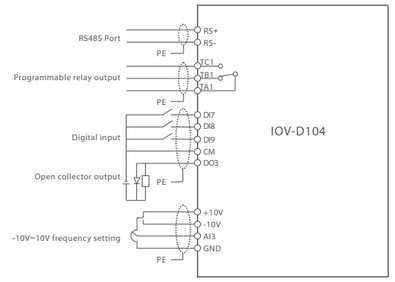
I/O Extension Card

No.	Name	Model	Technical index	Adaptive Models
1	IO extension card (Standard)	IOV-D104	1 channel 485 communication interface; ±10V auxiliarypower; 1 channel analog voltage input; 2 channel digital inputs; 1channal high-speed programmable pulse input; 1 high-speed programmable OC output; 1 programmable relay output.	DX100-4T0110 and above models V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models.
2	IO extension card	IOV-A102	1 group RS485 channel; + 10v auxiliary voltage source; + 24v auxiliary power supply; 4 channeldigital inputs; 1channel high-speed OC output; 2 channel analog inputs; 1group relay programmable output with normally open and normally closed contacts; 1 channel analog output.	V800-4T0030G/4T0040P and below models, E280-4T0040G/4T0055P and below models.
3	IO extension card	IOV-A103	Provide + 12v auxiliary voltage source; 4 digital input terminals; 1 high-speed digital input terminal; 3 single-ended PG signal input; 2 analog input (voltage and current); 1 group of relay programmable output normally open Normally closed.	V800-4T0030G/4T0040P and below models, E280-4T0040G/4T0055P and below models.
4	IO extension card	IOV-A110	Provide + 15v / 100mA auxiliary voltage source; + 24v / 100mA auxiliary voltage source; 2 digital inputs; 1 asynchronous communication serial port; 1 analog input.	V800-4T0030G/4T0040P and below models, E280-4T0040G/4T0055P and below models.
5	Communication & high-speed pulse expansion card	IOV-A113	3 programmable switch input terminals with rectification function, through external wiring, can choose source input mode or sink input mode; 1 NPN high-speed digital output port with isolation; 1 high-speed digital with isolation Input port; 1 analog input port (voltage or current can be switched); 1 analog output port (voltage or current can be switched); 1 with 485 communication interface; 1 set of programmable relay contact output ports; 1 10V auxiliary power output port; 1 24V auxiliary power output port.	V800-4T0030G/4T0040P and below model, E280-4T0040G/4T0050P and below model.
6	Rectifier input digital terminal expansion card	IOV-D112	3 programmable digital input terminals with rectification function, through external wiring, can choose source input mode or sink input mode; a set of 24VDC / 50mA auxiliary power supply.	DX100-4T0110 and above models, V800-4T0030G/4T0040P and below models, E280-4T0040G/4T0055P and below models.
7	I/O expansion card (communication)	IOV-A115	1 RS485 channel; 1 channel +5V auxiliary voltage source; 1 channel +10V auxiliary voltage source; 1 +24V auxiliary power supply; 8 channel programmable switch input terminal with rectifier function, dip switch selection, can choose the source type input mode or leakage type input mode, 1 channel high-speed digital input; 1 channel ordinary OC output; 1 high speed OC output; 2 analog input; 2 channel analog output; 1 set of relay programmable output with normally open and normally closed contacts;	V800-4T0030G/4T0040P and below models, E280-4T0040G/4T0055P and below models.

Product Structure and Introduction

1. I/O Extension Card（Standard Type）IOV-D104

IOV-D104 is applicable to DX100 Series/ V Series/E280 Series

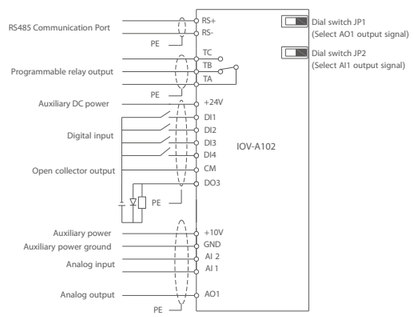


I/O Extension Card Wiring Diagram

Terminal Type	Terminal Name	Function
Communication port	RS+,RS-	RS485 communication port
Auxiliary power	+10V,-10V	Supply ±10V/Max. 10mA power
Analog input	AI3	Analog voltage -10V~10V input, input impedance ≥ 100k Ω
Digital input	DI7,DI8	Valid when OFF with CM port, input frequency ≤ 1kHz
High-speed pulse/digital input	DI9	High-speed programmable pulse input, valid when OFF with CM port, frequency ≤ 100kHz
High-speed pulse/digital output	DO3	High-speed programmable OC output, output frequency ≤ 100kHz
Programmable relay output	TA1	TA1-TB1 normally closed contact; TA1-TC1 normally open contact; Contact capacity: AC 250V/1A
	TB1	
	TC1	
Common port	GND	± 10V, common port of Ai3
	CM	Common port of DO3 、 DI7 、 DI8 、 DI9

2. I/O Extension Card IOV-A102

IOV-A102 is applicable to V Series/E280 Series

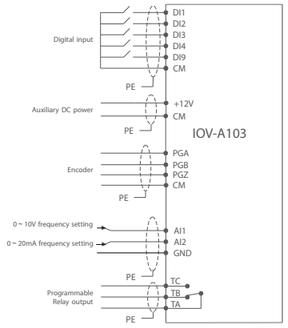


I/O Extension Card Wiring Diagram

Terminal Type	Name	Description	Function
Communication Port	RS+	485 differential signal positive terminal	Standard RS485 communication port
	RS-	485 differential signal passive terminal	
Output power	10V	+10V auxiliary voltage source	Max. loading capacity: 20mA
	24V	+24V auxiliary voltage source	Max. loading capacity: 100mA
Analog input	AI1	Analog input terminal	Input voltage: 0~10V (optional -10V~10V)
	AI2		Input current: 0~20mA
Digital input	DI1	Digital input terminal	Input impedance: R= 4.7KΩ Max. input frequency: 1kHz
	DI2		
	DI3		
	DI4		
Analog output	AO1	Multi-functional analog output terminal	Current output: 0~20mA(load resistance: 0~500Ω);voltage output:0~10V; Dial JP1 to V: voltage output; Dial JP1 to A: current output
Digital output	DO3	OC output terminal	Max. output frequency: 100kHz; Max. work voltage: 24V; Max. output current: 150mA
Programmable relay output	TA	TA-TB normally closed contact TA-TC normally open contact	Common port of +10V、AO1、AI1、AI2
	TB		
	TC		
Common port	GND	Analog common terminal	Common port of DO3、DI1、DI2、DI3、DI4
	CM	+24V/digital common terminal	Contact capacity: AC 250V/1A

3 . I/O Extension Card IOV-A103

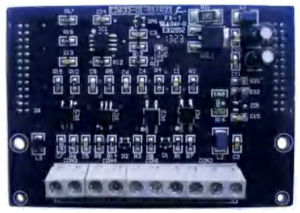
IOV-A103 is applicable to V Series/E280 Series



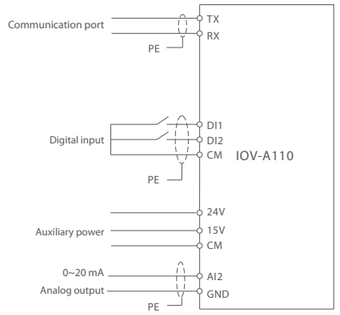
I/O Extension Card Wiring Diagram

Termnial Type	Name	Function
Auxiliary power	12V	Supply +12V/Max.100mA power
Single terminal PG signal input	PGA	Connect NPN type encoder A phase output, max. frequency ≤100 kHz
	PGB	Connect NPN type encoder B phase output, max. frequency ≤100 kHz
	PGZ	Connect NPN type encoder C phase output, max. frequency ≤100 kHz
Analog input	AI1	Analog voltage: 0 ~ 10V, input impedance ≥ 100kΩ
	AI2	Analog current input: 0 ~ 20mA
Digital input	DI1~DI4	Input frequency ≤ 1kHz
High-speed digital input	DI9	Can work as high-speed pulse input terminal, max. input frequency ≤100kHz
Programmable relay output	TA	TA-TB normally closed contact; TA-TC normally open contact; Contact capacity: AC 220V/ 1A
	TB	
	TC	
Common port	GND	Common port of AI1、AI2
	CM	Common port of 12V，PGA，PGB，PGZ，DI1~DI4，DI9

4. I/O Extension Card IOV-A110



IOV-A110 is applicable to V Series/E280 Series

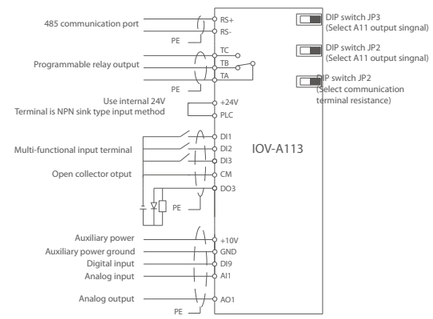


I/O Extension Card Wiring Diagram

Termnial Type	Name	Instructions	Function
Communication port	TX	Asynchronous serial port sender	Communication asynchronous serial port
	RX	Asynchronous serial port receiver	
Output power	24V	+24V voltage source	Maximum load capacity: 100mA
	15V	+15V voltage source	Maximum load capacity: 100mA
Analog input	AI2	Analog input terminal: See applicable models specification parameters F4	Input range: 0~20mA
Digital input	DI1	Digital input terminal: See applicable models specification parameters F3	Input impedance: R = 4.7kΩ Maximum input frequency: 1kHz
	DI2		
Common port	GND	Analog, AI2 common, asynchronous communication Interface public	——
	CM	+15V, +24V Power Supply Common DI1, DI2 common	

5 . Communication and high-speed pulse expansion card IOV-A113

IOV-A113 is applicable to V Series/E280 Series

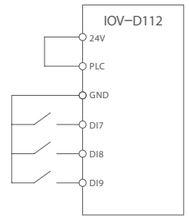


I/O Extension Card Wiring Diagram

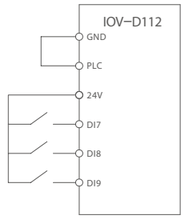
Termnial Type	Name	Instructions	Function
Communication	RS+	485 differential signal positive terminal	Standard RS485 communication port,JP1 terminal resistance switch,advised to tun JP1 to ON when used in parallel
	RS-	485 differential signal negative terminal	
Auxiliary power	VS	+10V auxiliary voltage source	Max.loading capacity:20mA
	24V	+24V auxiliary voltage source	Max.loading capacity:100mA
Analog input	AI1	Analog input terminal; See applicable models specification parameters F4	Input range:0~10V;Input current:0~20mA; Dial JP3 to V:voltage input ; Dial JP3 toA:current input
Digital input	DI1	Multi-functional input terminal; See applicable models specification parameters F3	Input impedance:R=4.7 KΩ Max.inputfrequency:200Hz Gate valve voltage<16V
	DI2		
	DI3		
Analog output	AO1	Analog output; See applicable models specification parameters F4	Current output:0~20mA; voltage output:0~10V; Output current with impedance specification:0~300Ω; Dial JP1 connect V:voltage output ; Dial JP1 to A:current output
Digital input	DI9	High-speed pulse input; See applicable models specification parameters F3	Max.input frequency:100kHz
Digital output	DO3	OC pulse input; See applicable models specification parameters F3	Max.output frequency:100kHz;Max working voltage:24V; Max output current:150mA
Programmable relay output	TA	TA-TB normally closed contact; TA-TC normally open contact; See applicable models specification parameters F3	Contact rating: AC 250V/3A
	TB		
	TC		
Common port	GND	Analog common terminal	Common port of +10V、AO1、AI1
	CM	+24V、pulse input、pulse output common port	Common port of +24V、DO3、DI9
	PLC	DI1、DI2、DI3 source/sink input selection terminal	When DI1, DI2 and DI3 are driven by external signals, PLC needs to be connected with external power supply

6．Rectifier input digital terminal expansion card IOV-D112

IOV-D112 is applicable to DX100 Series/ V Series/E280 Series



Input signal is NPN sinking input wiring diagram

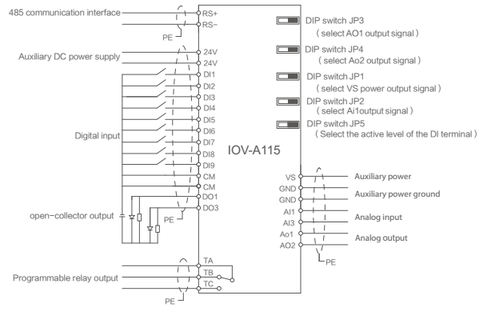


Input signal is NPN sinking input wiring diagram

Termnial Type	Name	Instructions	Function
Output power	24V	24v auxiliary voltage source positive	Max output current 50mA
	GND	24v auxiliary voltage source ground	
Common port	PLC	DI7、DI8、DI9 input terminal source/sink selection terminal, When DI7, DI8 and DI9 are driven by external signals, PLC needs to be connected with external power supply	Voltage output15~24VDC
Digital input terminal	DI7	Multi-functional input terminal DI7	
	DI8	Multi-functional input terminal DI8	
	DI9	Multi-functional input terminal DI9	

7. I/O Expansion Card(with communication) IOV-A115

IOV-A115 is applicable to V Series/E280 Series



I/O Extension Card Wiring Diagram

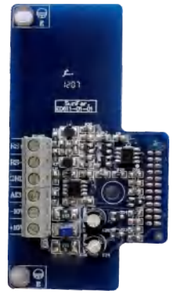
Termnial Type	Name	Instructions	Function
Communication port	RS+	485 differential signal positive terminal	Standard RS485 communication port
	RS-	485 differential signal negative terminal	
24V output power	24V	+24V auxiliary voltage source	Max.loading capacity: 100mA
	CM	+24V、Digital input and output common terminal	24V、DO1、DO3、DI1~DI9 common port
10V/5V output power	VS	+5V/+10V auxiliary voltage source	Dial JP1 to 5V: +5V auxiliary voltage source; Dial JP1 to 10V: +10V auxiliary voltage source; Max loading capacity: 10mA
	GND	VS、Analog input, output common port	VS、AI1、AI3、AO1、AO2 common port
Analog input	AI1	Analog input terminal; See applicable models specification parameters F4	Dial JP2 to VI1: Input voltage 0~10V: Dial JP2 to CI1: Input current: 0~20mA
	AI3		Analog input voltage：−10V~10V
Digital input	DI1	With rectified digital input； See applicable models specification parameters F3	Dial JP5 to 24V: DI terminal and CM terminal are closed effectively; Dial JP5 to CM: DI terminal and 24V terminal are closed and valid Max. input frequency: 300Hz
	DI2		
	DI3		
	DI4		
	DI5		
	DI6		
	DI7		
	DI8		
	DI9	High-speed pulse input; See applicable models specification parameters F3	Valid when OFF with CM port, Max.input frequency：100kHz
Analog output	AO1	Multi-functional analog output terminal; See applicable models specification parameters F4	Dial JP3 to VO1 voltage output: 0~10V, max. output current: 10mA; Dial JP3 to CO1 Current output: 0~20mA, max. load capacity: 500Ω
	AO2		Dial JP4 to VO2 voltage output: 0~10V, max. output current: 10mA; Dial JP4 to CO2 Current output: 0~20mA, max. load capacity: 500Ω
Digital output	DO1	Ocoutput, See applicable models specification parameters F3	Max.output frequency: 300kHz Max. work voltage:24V Max output current:50mA
	DO3	High speed pulse OC output See applicable models specification parameters F3	Max.output frequency:100kHz Max. work voltage:24V Max output current:50mA
Relay programmable output	TA	TA-TB normally closed contact; TA-TC normally open contact; See applicable models specification parameters F3	Contact capacity：AC 250V/2A
	TB		
	TC		

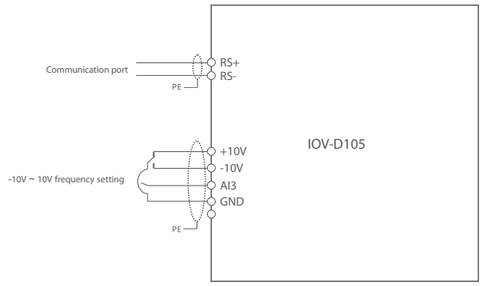
Communication Adaptive Card

No.	Name	Model	Technical index	Adaptive Model
1	Modbus communication adaptiveCard	IOV-D105	1 channel 485 communication interface; ± 10V auxiliary power;1analog input	V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models. DX100-4T0110 and above models.
2	CANopen communication adaptive card	IOV-D109	Support CAN2.0A communication, comply with ISO11898 standard; comply with CANopen standard protocol DS301v4.02; enhance ESD protection, isolated CAN transceiver interface; low communication delay time, less than 2ms; 4 RPDO, 4 TPDO, each PDO Both can be remapped, PDO transmission type: synchronous periodic trigger, synchronous aperiodic trigger; support for SDO service: support for standard SDO fast transmission mode, access to all inverter parameters through SDO; support for Emergency Protocol: when inverter alarm or warning Actively send Emergency messages	V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models. DX100-4T0110 and above models.
3	I/O extension card	IOV-D111	15V auxiliary voltage source; 1 asynchronous communication serial port	V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models. DX100-4T0110 and above models.
4	Profibus-DP communication adaptive card	IOV-E108	Supports PROFIBUS-DP protocol,in compliance with EN50170 DPV0 and IEC61158 standards; PROFIBUS-DP is self-adaptive in measuring baud rate with a maximum baud rate of 12Mbps; supports PROFIDRIVE message frame format PPO1 ~ 5; can receive single-ended collector-level open circuit output ,Pull-type output and differential output encoder signals; provide a set of + 12V power supply (load capacity≤ 500mA); provide incremental encoder three-phase differential input standard interface	V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models. DX100-4T0110 and above models.
5	Air compressor communication adapter cardcommunication adapter card	IOV-B106	MODBUS protocol conversion, which maps the commonly used access monitoring quantities of air compressors to the corresponding control quantities of Quartet E580, V series inverters (including unit conversion)	V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models. DX100-4T0110 and above models.
6	DP communication entension card	IOV-A111 (Main card)	Main card: 1 relay programmable output, 3 digital inputs, 1 digital output, providing + 24V auxiliary power. Vice card: 2 slave address dialers, 1 Profibus plug interface.	V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models.
7	DP communication entension card	IOV-A112 (Vice card)		

Product Structure and Introduction

1 . Communication Adaptive Card IOV-D105





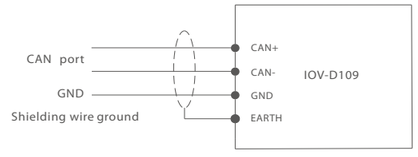
Communication Card Wiring Diagram

IOV-D105 is applicable to V Series/E280 Series

Terminal Type	Name	Function
Communication port	RS+, RS-	RS485 communication port
Auxiliary power	+10V, -10V	Supply ±10V/max. 10mA power
Common port	GND	Common port of ±10V and AI3
Analog input	AI3	Analog voltage input (-10V~10V), input impedance ≥100kΩ

2 . CANopen Communication Adaptive Card IOV-D109

IOV-A110 is applicable to V Series/E280 Series

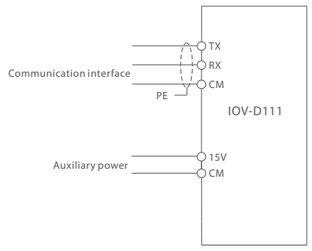


CANopen Communication Card Wiring Diagram

Terminal Type	Name	Function
Communication port	CAN+	CANopen communication physical interface
	CAN-	
Communication cable shielding ground	EARTH	CANopen cable shielding ground
Common port	GND	Protection ground
Knob	**Position**	**Baud Rate**
Baud rate selection	0	10kbps
	1	20kbps
	2	50kbps
	3	125kbps
	4	250kbps
	5	500kbps
	6	800kbps
	7	1Mkbps

3. I/O extension card IOV-D111

IOV-D111 is applicable to V Series/E280 Series

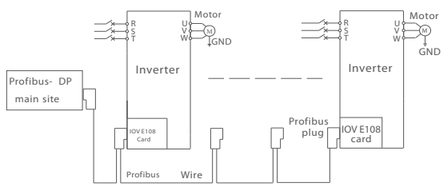


Extension Card Wiring Diagram

Termnial Type	Name	Instructions	Function
Communication port	TX	Asynchronous series port sender	Communication asynchronous series port
	RX	Asynchronous series port receiver	
	15V	15V reference voltage source	Maximum load capacity:100mA
	CM	15V common port,asynchronous communication interface common port	–

4. Profibus-DP Communication Adaptive Card IOV-E108

IOV-E108 is applicable to V Series/E280 Series

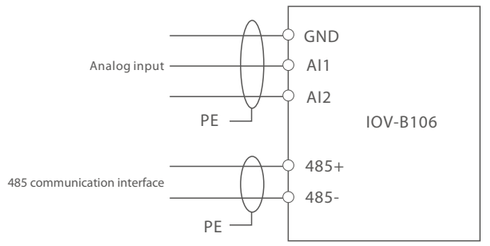


Profibus-DP Communication Card Wiring Diagram

Terminal Type	Name	Function
Profibus differential signal	DP-A-	Receive / send data -N(signal A)
	DP-B+	Receive / send data -P(signal B)
	PGND	Communication cable shielding ground
Standard Profibus bus connector	1	Shielding layer
	3	Receive / send data -P(signal B)
	4	Control -P
	5	5V power earth
	6	5V power
	8	Receive / send data -N(signal A)
Auxiliary power	+12V	Supply +12V/max. 200mA current
Common port	GD	Power supply referring ground
Differential input	A+	Encoder A phase differential (+12V20%)input, max. frequency ≤100 kHz
	A-	
	B+	Encoder B phase differential (+12V20%)input, max. frequency ≤100 kHz
	B-	
	Z+	Encoder Z phase differential (+12V20%)input, max. frequency ≤100 kHz
	Z-	

5. Air compressor communication adapter cardcommunication adapter card IOV-B106

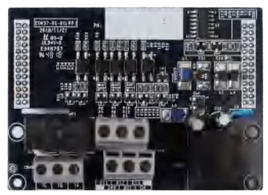
IOV-B106 used for air compressor controller to access V series / E280 series

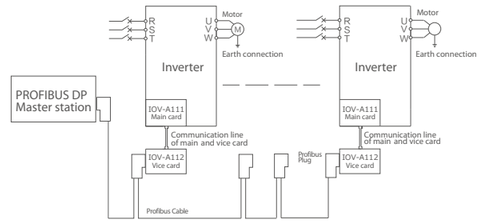


Air compressor communication adapter card wiring diagram

Termnial Type	Name	Function
Communication port	485- , 485+	RS485 communication port
Analog input	AI1	Voltage input:0~10V
	AI2	Current input:0~20MA
Common port	GND	Reference point for ± 10,AI3
	CM	Common port for AI1、AI2

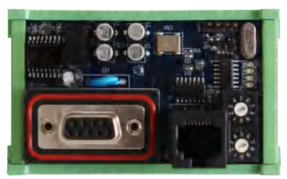
6. DP communication entension card IOV-A111 (Main card)





DP Communication Card Wiring Diagram

7. DP communication entension card IOV-A112 (Vice card)



IOV-A111 / A112 DP communication expansion card is an optional communication expansion Card that our company launched with E280 (4.0KW and below) / V350 (3.0KW and below) / V800 (3.0KW and below) series of low-power inverters.

Main card part

Termnial Type	Name	Instructions	Function
Programmable relay output	TA	TA-TB normally closed contact; TA-TC normally open contact; See applicable models specification parameters F3	Contact rating: AC 250V/1A
	TB		
	TC		
Digital input	DI1	Digital input; See applicable models specification parameters F3	Input impedance: R=4.7 KΩ Max.input frequency: 200Hz
	DI2		
	DI3		
Digital output	DO3	OC output; See applicable models specification parameters F3	Max.output frequency: 100kHz ;Max working voltage: 24V Max output current: 150mA
Auxiliary power	+24V	+24V auxiliary voltage source	Max 100mA current
Common port	CM	Power reference ground	Common port of DO3、DI1、DI2、DI3
Sub card connection port	CON1	Main card and Vice card communication interfaces	Communication line length: ≤ 300mm

Vice card part

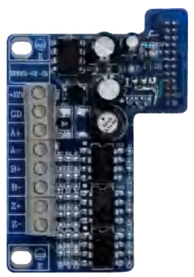
Termnial Type	Name	Instructions	Function
Slave address dialer	SW1	Single digit of slave address code	The setting range of the hardware slave address is 1 ~ 98; when the slave address dialer sets the slave address to 0, it indicates that the node address of the DP slave is read from the internal EEPROM, and the setting range is 1 ~ 126; When the slave address dialer sets the slave address to 99, it instructs the DP slave configuration parameters to power on to restore the factory default values.
	SW2	Ten-digit of slave address code	
Profibus plug connection	CON1	Stasiun abdi cerdas DP disambungake karo stasiun master PROFIBUS	The bus communication cable is recommended to use Profibus RS-485 type A cable; Characteristic impedance:135Ω~165Ω capacitance: ≤30pf/m Loop resistance: ≤110Ω/km Wire diameter:>0.64mm Conductor cross-sectional area:>0.34mm2
Main card connection port	CON3	Main card and Vice card communication interfaces	Communication line length: ≤ 300mm

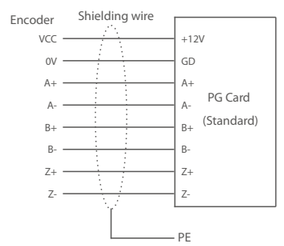
PG Extension Card

No.	Name	Model	Adaptive Model	Adaptive Model
1	PG card (Standard)	PGV-C000	1. matching incremental encoder; 2. adaptive TTL gain signal or differential signal; 3. providing +12V / maximum 200mA auxiliary power; 4. 3 differential inputs (A+ / A-, B+ / B-, Z+ / Z-), the max input frequency ≤ 100kHz	V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models. DX100-4T0110 and above models.
2	PG signal separation card	PGV-C001	1. matching incremental encoder; 2. providing 3 differential inputs and 3 5V differential output signals in phase with the input; 3. providing +5V / max 200mA auxiliary power; 4. 3 differential inputs (A+ / A-, B+ / B-, Z+ / Z-), 3 differential outputs (AO+ / AO-, BO+ / BO-, ZO+ / ZO-) , the max input frequency ≤ 100kHz	V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models. DX100-4T0110 and above models.
3	PG signal separation card	PGV-C005	1. Can receive single-ended collector-level open-circuit output and 5V differential output encoder signals, output open-collector signals; 2. 5V/500mA(max) voltage source; 3. Incremental encoder three-phase ABZ differential input standard interface, Signal amplitude +5V±20%; 4. three-phase ABZ NPN open collector output interface, withstand voltage 24V; 5. signal frequency: ≤ 100kHz	V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models. DX100-4T0110 and above models.
4	Sine cosine PG card	PGV-C006	1. Matching incremental encoder; 2. Adaptive sine signal or cosine signal; 3. Provide +5V/Max 100mA auxiliary power; 4. 3 differential input (IA+/IA-, IB+/IB-, IZ+IZ-), 3 differential output (OA+/OA-, OB+/OB-, OZ+/OZ-) max input frequency ≤ 1MHz	V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models. DX100-4T0110 and above models.
5	Sine cosine PG card	PGV-E001	1. 5V/100mA(maximum) auxiliary power supply; 2. 1 channel sine and cosine signal input standard interface, the peak-to-peak value of the sine and cosine differential signal <700mV; 1.75V<DC offset <3.15V; 3. The frequency of the sine and cosine signal: ≤ 90KHz(32 times interpolation coefficient); 4: 1 channel AB pulse position given channel; 5:1 channel RS485; 1 channel PT100 temperature sampling; 1 channel PTC130 thermal switch protection input; 1 channel digital input; 1 channel Expand high-speed DI input; 1 high-speed OC output.	V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models. DX100-4T0110 and above models.
6	PG & communication extension card	PGV-A006	1. 1 programmable relay contact output port; 2. 4 digital input ports; 3. 1 digital output port; 4. 1 isolated PG speed port; 5. 1 485 communication interface; 6. 2 Analog input ports (AI1 voltage or current switchable, AI2 fixed voltage input); 7. 2 analog output ports (AO1 voltage or current switchable, AO2 fixed voltage input); 8. 1 10V auxiliary power output port ; 9. 1 12V auxiliary power output port (for PG speed measurement); 10. 1 24V auxiliary power output port.	V800-4T0040G/4T0055P and above models, E280-4T0055G/4T0075P and above models.

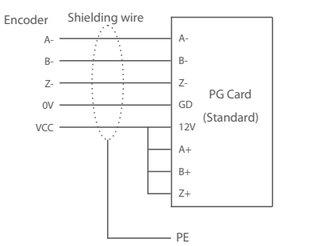
Product Structure and Introduction

1.PG Card(Standard) PGV-C000





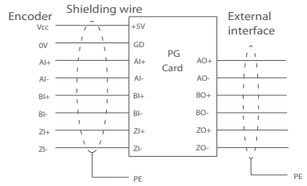
PG Card Differential Input Wiring Diagram



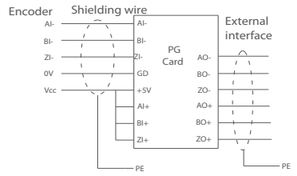
PG Card Single Terminal Input Wiring Diagram

Terminal Type	Name	Function
Auxiliary power	+12V	Supply +12V/max.200mA current
Common port	GD	Common port of power
Differential input	A+	Encoder A phase differential (+12V±20%) input, max. frequency ≤100 kHz
	A-	
	B+	Encoder B phase differential (+12V±20%) input, max. frequency ≤100 kHz
	B-	
	Z+	
	Z-	Encoder Z phase differential (+12V±20%) input, max. frequency ≤100 kHz

2. PG Signal Separation Card PGV-C001



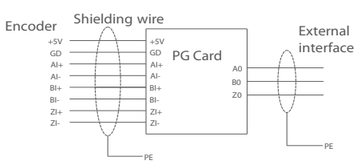
PG Card Differential Input Wiring Diagram



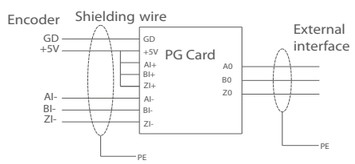
PG Card Single Terminal Input Wiring Diagram

Terminal Type	Name	Function
Auxiliary power	+5V	Supply +5V/ max. 500mA current
Common port	GD	+5V power common port
Differential output	AO+	Encoder A phase differential (+5V±20%) output, max. frequency ≤100 kHz
	AO-	
	BO+	Encoder B phase differential (+5V±20%) output, max. frequency ≤100 kHz
	BO-	
	ZO+	Encoder Z phase differential (+5V±20%) output, max. frequency ≤100 kHz
	ZO-	
Differential input	AI+	Encoder A phase differential (+5V±20%) input, max. frequency ≤100 kHz
	AI-	
	BI+	Encoder B phase differential (+5V±20%) input, max. frequency ≤100 kHz
	BI-	
	ZI+	Encoder Z phase differential (+5V±20%) input, max. frequency ≤100 kHz
	ZI-	

3 . PG Signal Separation Card (OC) PGV-C005



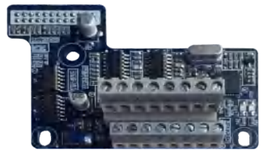
PG Card Differential Input Wiring Diagram

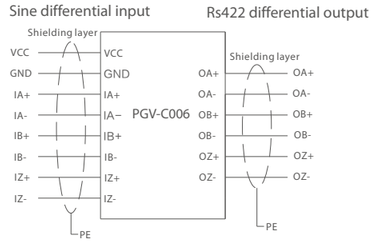


PG Card Single Terminal Input Wiring Diagram

Terminal Type	Name	Function
Auxiliary power	+5V	Supply +5V/ max. 500mA current
Common port	GD	+5V power common port
Open collector output	AO	Encoder A phase open collector output, max. frequency ≤100 kHz, output current <100mA
	BO	Encoder B phase open collector output, max. frequency ≤100 kHz, output current <100mA
	ZO	Encoder Z phase open collector output, max. frequency ≤100 kHz, output current <100mA
Differential input	AI+	Encoder A phase differential (+5V±20%) input, max. frequency ≤100 kHz
	AI-	
	BI+	Encoder B phase differential (+5V±20%) input, max. frequency ≤100 kHz
	BI-	
	ZI+	Encoder Z phase differential (+5V±20%) input, max. frequency ≤100 kHz
	ZI-	

4. Sine cosine PG card PGV-C006



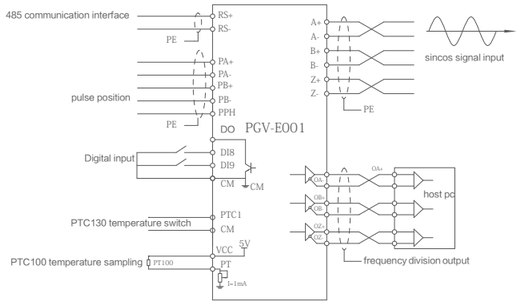


Wiring Diagram of sine and cosine PG card

Sine cosine PG card PGV-C006 can be used in general industrial sites where the output of motor position sensor is sine cosine signal. Combined with E280, V350 and V800 series converters, it can realize the precise stop and indexing positioning function functions of high-speed spindle motor; It can be widely used in high-end processing equipment with functions such as precise stop tool change and indexing positioning, such as CNC lathe, CNC milling machine, machining center, engraving machine, etc.

Termnial Type	Name	Instructions	Function
Power supply	VCC	Auxiliary power	Supply +5V/max.500mA current
	GND	Common port of power	+5V power reference ground
Differential input	IA+	Sine signal differential input	Peak to peak value<700Mv; 1.75V<DC bias<3.15V; Max frequency<90kHz;
	IA–		
	IB+	Cosine signal differential input	
	IB–		
	IZ+	Zero sine signal differential input	
	IZ–		
RS422 differential output	OA+	Encoder A-phase differential output	Max frequency≤1MHz; Input current≤25mA;
	OA–		
	OB+	Encoder B-phase differential output	
	OB–		
	OZ+	Encoder Z-phase differential output	
	OZ–		

5. Sine cosine PG Card PGV-E001

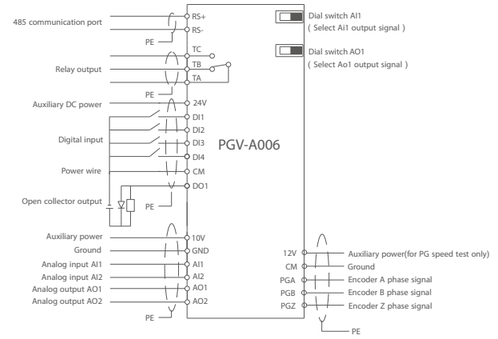


PGV-E001 is applicable to DX100 Series/V Series/E280 Series

Wiring Diagram of sine and cosine PG card

Terminal type	Name	Function
APS	VC1	Provide +5V maximum 100mA current to external
Common port	GD1	+5V power reference ground
Sine and cosine signal input	IA+	Sinusoidal signal differential input（P−P <700mV; 1.75V<DC bias<3.15V) max. frequency≤90 kHz
	IA-	
	IB+	Cosine signal differential input（P-P<700mV；1.75V<DC bias<3.15V) max. frequency≤90 kHz
	IB-	
	IZ+	Zero-position sinusoidal signal differential input（P-P<700mV; 1.75V<DC bias<3.15V) max. frequency≤90 kHz
	IZ-	
Differential input	OA+	Encoder A-Phase differential output, frequency≤1MHz, output current≤20mA
	OA-	
	OB+	Encoder B-Phase differential output, frequency≤1MHz, output current≤20mA
	OB-	
	OZ+	Encoder Z-Phase differential output, frequency≤1MHz, output current≤20mA
	OZ-	
Common port	E	Sincos signal cable shield ground
Position AB pulse interface	A+	Pulse input mode: differential input, open collector input Pulse shape: direction + pulse, A/B quadrature pulse, CW/CCW pulse
	A-	
	B+	
	B-	
	PH	Command pulse power input interface, the internal 2KΩ resistor has been connected in series
Digital input and output (Refer to E580/V series manual for details F3 parameter)	DI8	Digital input, highest input frequency:200Hz
	DI9	Extended high-speed DI input (NPN connection), maximum input frequency: 100kHz
	DO3	OC output, maximum output frequency: 100kHz; maximum operating voltage: 24V; maximum output current: 150mA
	CM	Digital common port
PT100 temperature sampling	PT	Connected to one end of P100 thermal resistance
	VCC	5V power supply,Connected to one end of P100 thermal resistance, PTC100 flows through 1mA current
	CM	Reference ground for 24V、12V、DI、DO、PGA、PGB、PGZ
Temperature protect	PTC1	PTC130 temperature check；Standard PTC130 temperature switch curve, higher than 130℃ alarm
	CM2	PTC130 common port 2
	RS+	485Differential signal positive terminal
	RS-	485 Differential signal positive terminal

6. PG & Communication Extension Card PGV-A006



PG Extension Card Wiring Diagram

Terminal Type	Name	Description	Function
Programmable relay output	TA	TA-TB normally closed contact, TA-TC normally open contact, Please refer to F3 parameter for more details.	Contact capacity: AC 250V/1A
	TB		
	TC		
Digital input	DI1	Digital input: Please refer to F3 parameter for more details.	Input frequency < 1kHz
	DI2		
	DI3		
	DI4		
Digital output	DO1	OC output, please refer to F3 parameter for more details.	Max. work voltage: 24V, max. work current: 150mA
Auxiliary power reference ground	24V	+24V auxiliary voltage source	Max. loading capacity: 200mA
	12V	PG speed test specialized power	Max. loading capacity: 100mA
	CM	Reference ground for 24V、12V、DI、DO、PGA、PGB、PGZ	——
Programmable relay output	PGA	Respectively contact to incremental encoder A、B、Z phase output	Connect NPN type encoder A phase output max. frequency ≤100kHz
	PGB		
	PGZ		
Auxiliary power reference ground	10V	+10V auxiliary voltage source	Max. loading capacity: 16mA
	GND	Reference ground for 10V、AI1、AO1、AI2、AO2	——
Communication port	RS+	485 differential signal positive terminal	——
	RS-	485 differential signal passive terminal	
Analog input	AI1	Analoginputterminal PleaserefertoF4parameterformoredetailsin Manual.	1. Dial switch to V as voltage input mode, and input voltage range:0~10V, input impedance:100K 2. Dial switch to A as current input mode, input current range:0~20mA
	AI2		Voltage input mode only
Analog output	AO1	Analog output terminal Please refer to F4 parameter for more details in Manual.	1. Dial switch to V as voltage input mode, and output voltage range:0~10V.Loading resistance >1K 2. Dial switch to V as voltage input mode, and output current range:0~20mA. Loading resistance <500R
	AO2		Voltage input mode only

CA100 Series

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 P/R,17bit,20bit multiple encoder.
- With the load inertia integration, load interia identification and vibration depression dialing device.
- Overload capacity up to 3 times.

Specifications

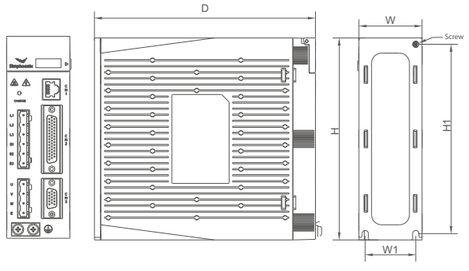
Basic Specifications	Drive model	CA100T	1R8、3R0、4R5、6R0、7R5、10R	1PH/3PH AC220V -15%~+10% 50/60Hz
		CA100F	4R0、6R0、8R5、12R、20R、25R	3PH AC380V -15%~+10% 50/60Hz
	Control mode	Torque, speed, position, speed/position, torque/position, torque/speed		
	Feedback	Incremental encoder 2500P/R		
	Work condition	Temperature	Working ambient temperature: 0℃~+45℃ (When the environmental temperature is more than +45℃, please make inverter derated.)	
			Storage temperature: -20℃~+60℃	
		Humidity	Below 90%RH, no condensed water	
		Vibration	0.5G(4.9m/s^2)	
		Protecting grade	IP20	
		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% (≤rated speed)	
		Fluctuation of voltage	Rated voltage ± 10%: 0% (≤rated speed)	
		Fluctuation of temperature	25 ±25°C: ± 0.1% (≤rated speed)	
	Torque control precision	±5% (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	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	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,Z 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		

CA100 Series

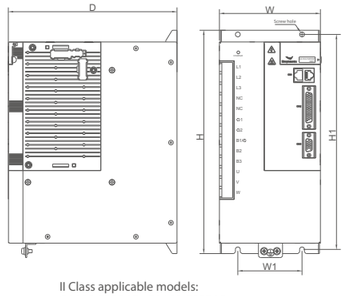
Model Table

Voltage class	Model	Code	Rated current (A)	Maximum Suitable motor (kW)
Single phase 220V	CA100-T1R8AP	022M100200018	1.8	0.20
	CA100-T3R0AP	022M100200030	3.0	0.75
Single/Three phase 220V	CA100-T4R5AP	022M100200045	4.5	1.20
Three phase 220V	CA100-T6R0AP	022M100200060	6.0	1.80
	CA100-T7R5AP	022M100200075	7.5	2.00
	CA100-T10RAP	022M100200100	10.0	2.60
Three phase 380V	CA100-F4R0AP	022M100400040	4.0	1.50
	CA100-F6R0AP	022M100400060	6.0	2.60
	CA100-F8R5AP	022M100400085	8.5	3.80
	CA100-F12RAP	022M100400120	12.0	5.50
	CA100-F20RAP	022M100400200	20.0	7.50
	CA100-F25RAP	022M100400250	25.0	9.80

Drive dimensions



I Class applicable models:
CA100-T1R8AP~ CA100-T10RAP
CA100-F4R0AP~ CA100-F12RAP



II Class applicable models:
CA100-F20RAP~CA100-F25RAP

Model	W1 (mm)	W (mm)	H1 (mm)	H (mm)	D (mm)	Screw
CA100-T1R8□□	40	50	150	160	175	M4
CA100-T3R0□□						
CA100-T4R5□□	60	70	150	160	175	M4
CA100-T6R0□□						
CA100-T7R5□□						
CA100-T10R□□	89	100	169	180	200	M5
CA100-F4R0□□						
CA100-F6R0□□						
CA100-F8R5□□						
CA100-F12R□□						
CA100-F20R□□	80	110	268	280	210	M5
CA100-F25R□□						

CM105 Series Servo Motor and Matched CA100 Servo Drive Selection Table

220V						
Capacity(W)	Speed(rpm)	Rated Torque(Nm)	Flange	Motor	Drive	Motor Code
200	3000	0.60	60	CM105-60T06030A1□□□□	T1R8 A	2001
400	3000	1.30	60	CM105-60T13030A1□□□□	T3R0 A	2025
			80	CM105-80T13030A1□□□□	T3R0 A	2028
600	3000	1.90	60	CM105-60T19030A1□□□□	T4R5 A	2055
	3000	2.00	110	CM105-110T20030A1□□□□	T3R0 A	2024
730	2000	3.50	80	CM105-80T35020A1□□□□	T3R0 A	2026
750	3000	2.40	80	CM105-80T24030A1□□□□	T3R0 A	2027
800	2000	4.00	110	CM105-110T40020A1□□□□	T4R5 A	2048
1000	2500	4.00	80	CM105-80T40025A1□□□□	T4R5 A	2050
	2500	4.00	130	CM105-130T40025A1□□□□	T4R5 A	2049
	1000	10.00	130	CM105-130T10110A1□□□□	T4R5 A	2051
1100	3000	3.50	80	CM105-80T35030A1□□□□	T4R5 A	2052
1200	3000	4.00	110	CM105-110T40030A1□□□□	T6R0 A	2074
	2000	6.00	110	CM105-110T60020A1□□□□	T4R5 A	2054
1300	2500	5.00	130	CM105-130T50025A1□□□□	T6R0 A	2075
1500	3000	5.00	110	CM105-110T50030A1□□□□	T6R0 A	2076
	2500	6.00	130	CM105-130T60025A1□□□□	T6R0 A	2077
	1500	10.00	130	CM105-130T10115A1□□□□	T6R0 A	2078
1800	3000	6.00	110	CM105-110T60030A1□□□□	T6R0A	2079
2000	2500	7.70	130	CM105-130T77025A1□□□□	T7R5 A	2082
2300	1500	15.00	130	CM105-130T15115A1□□□□	T10R A	2106
2600	2500	10.00	130	CM105-130T10125A1□□□□	T10R A	2107

380V						
Capacity(W)	Speed(rpm)	Rated Torque(Nm)	Flange	Motor	Drive	Motor Code
1000	1000	10.00	130	CM105-130F10110A1□□□□	F4R0 A	4012
1500	1500	10.00	130	CM105-130F10115A1□□□□	F4R0 A	4013
2300	1500	15.00	130	CM105-130F15115A1□□□□	F6R0 A	4030
2600	2500	10.00	130	CM105-130F10125A1□□□□	F6R0 A	4031
3000	1500	19.00	180	CM105-180F19115A1□□□□	F8R5 A	4049
3700	1000	35.00	180	CM105-180F35110A1□□□□	F12R A	4069
3800	2500	15.00	130	CM105-130F15125A1□□□□	F12R A	4067
4300	1500	27.00	180	CM105-180F27115A1□□□□	F12R A	4070
4500	2000	21.50	180	CM105-180F22120A1□□□□	F12R A	4068
5500	1500	35.00	180	CM105-180F35115A1□□□□	F12R A	4071
5600	2000	27.00	180	CM105-180F27120A1□□□□	F20R A	4084
7300	2000	35.00	180	CM105-180F35120A1□□□□	F20R A	4085
7500	1500	48.00	180	CM105-180F48115A1□□□□	F20R A	4083
10000	2000	48.00	180	CM105-180F48120A1□□□□	F25R A	4101

CM105 Sereis

CM105 Series Servo Motor

CM105 series servo motor is a kind of high-performance permanent magnet synchronous motor, high efficiency and low temperature rise bring energy saving benefits to users; it has strong overload capacity, large starting torque, good static rigidity, strong anti load disturbance capacity; large, medium and small inertia can be selected, which can better adapt to the needs of mechanical stability and high-speed responsiveness. Standard imported incremental encoder, higher reliability, longer life.

Typical Applications

- Packaging machine
- Food processing
- Numerical control machine
- Textile machinery
- Woodworking machinery
- Electronic manufacturing




Features

- Precise position control .
- Strong overload capacity .
- Large starting torque .
- Higher reliability and longer life .

Specifications

Flange range	60、80、110、130、180
Torque range	0.64 N.m~48 N.m
Power range	0.2kW~7.5kW
Insulation resistance	500VDC 100MΩ
Insulation strength	1500VAC 1min
Use environment	-20℃~50℃
Insulation grade	F
Encoder type	Photoelectric increment 2500 lines
Overload capacity	Motor under 180 flange 3 times overload, 180 motor 2.5 times overload

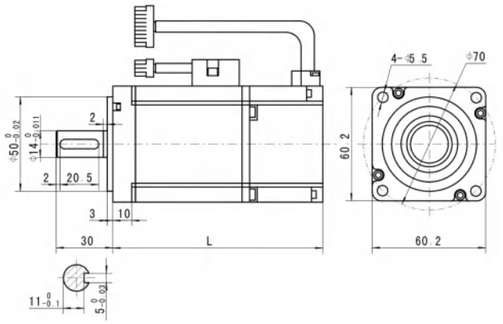
Motor specifications

Motor type	Capacity (W)	Rated current (A)	Rated torque (Nm)	Speed (rpm)	Voltage (V)	Flange	Motor Length L(mm)	
							No Brake	Band-type brake
CM105-60T06030A1□□□□	200	1.3	0.64	3000	220	60	111	161
CM105-60T13030A1□□□□	400	2.6	1.27	3000	220	60	135	185
CM105-80T13030A1□□□□	400	2.0	1.27	3000	220	80	124	167
CM105-80T24030A1□□□□	750	3.0	2.39	3000	220	80	151	194
CM105-80T35020A1□□□□	730	3.0	3.50	2000	220	80	179	222
CM105-80T35030A1□□□□	1100	4.5	3.50	3000	220	80	179	222
CM105-80T40025A1□□□□	1000	4.4	4.00	2500	220	80	191	234
CM105-110T20030A1□□□□	600	2.5	2.00	3000	220	110	159	233
CM105-110T40020A1□□□□	800	3.5	4.00	2000	220	110	189	263
CM105-110T40030A1□□□□	1200	5.0	4.00	3000	220	110	189	263
CM105-110T50030A1□□□□	1500	6.0	5.00	3000	220	110	204	278
CM105-110T60020A1□□□□	1200	4.5	6.00	2000	220	110	219	293
CM105-110T60030A1□□□□	1800	6.0	6.00	3000	220	110	219	293
CM105-130T40025A1□□□□	1000	4.0	4.00	2500	220	130	166	223
CM105-130T50025A1□□□□	1300	5.0	5.00	2500	220	130	171	228
CM105-130T60025A1□□□□	1500	6.0	6.00	2500	220	130	179	236
CM105-130T77025A1□□□□	2000	7.5	7.70	2500	220	130	192	249
CM105-130T10110A1□□□□	1000	4.5	10.00	1000	220	130	213	294
CM105-130T10115A1□□□□	1500	6.0	10.00	1500	220	130	213	294
CM105-130T10125A1□□□□	2600	10.0	10.00	2500	220	130	209	290
CM105-130T15115A1□□□□	2300	9.5	15.00	1500	220	130	241	231
CM105-130F10110A1□□□□	1000	2.5	10.00	1000	380	130	213	294
CM105-130F10115A1□□□□	1500	3.5	10.00	1500	380	130	213	294
CM105-130F10125A1□□□□	2600	6.0	10.00	2500	380	130	209	290
CM105-130F15115A1□□□□	2300	5.0	15.00	1500	380	130	241	322
CM105-130F15125A1□□□□	3800	8.8	15.00	2500	380	130	231	312
CM105-180F19115A1□□□□	3000	7.5	19.00	1500	380	180	232	304
CM105-180F22120A1□□□□	4500	9.5	21.50	2000	380	180	243	315
CM105-180F27115A1□□□□	4300	10.0	27.00	1500	380	180	362	334
CM105-180F27120A1□□□□	5600	13.0	27.00	2000	380	180	262	334
CM105-180F35110A1□□□□	3700	10.0	35.00	1000	380	180	292	364
CM105-180F35115A1□□□□	5500	12.0	35.00	1500	380	180	292	364
CM105-180F35120A1□□□□	7300	16.0	35.00	2000	380	180	292	364
CM105-180F48115A1□□□□	7500	20.0	48.00	1500	380	180	346	418
CM105-180F48120A1□□□□	10000	24.0	48.00	2000	380	180	346	418

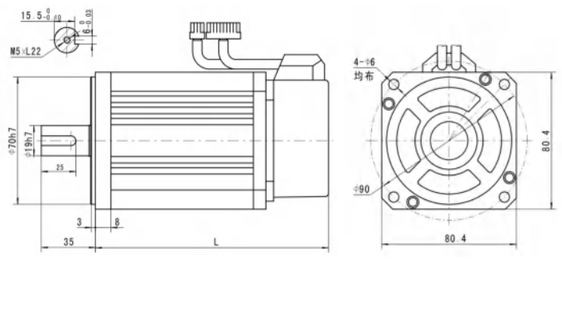
CM105 Series

Drive dimensions(mm)

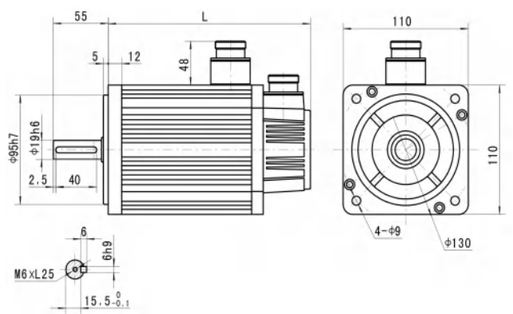
60 Flange Motor Dimension



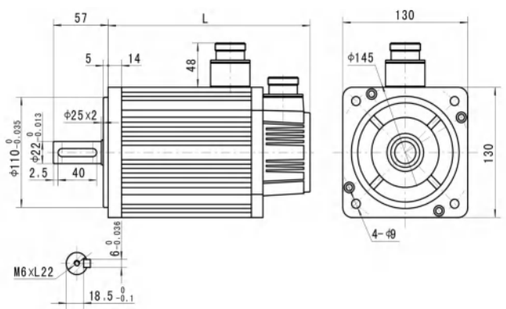
80 Flange Motor Dimension



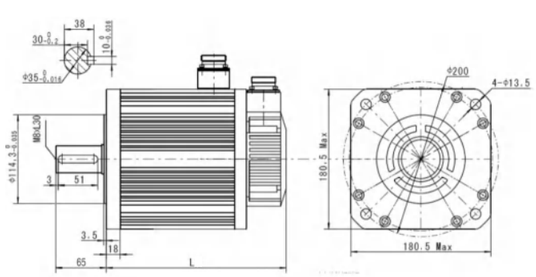
110 Flange Motor Dimension



130 Flange Motor Dimension



180 Flange Motor Dimension



EP1S Series

EP1S Series Programmable Logic Controller (PLC)

EP1S 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/30point/40point/60point.
- Program capacity: 24K step.
- Basic order counting speed: 0.2~0.5μs.
- High speed pulse output: 4 independent 100 kHz.
- Communication port: 1 RS232 port (program port), 1 RS232/RS485 port.
- Holding when power-off: bit register 3248, word register 2940.
- High speed counting: single phase 8 group: 4x100kHz, 4x10kHz, AB phase 2 group: 1x50kHz, 1x5kHz.

EP1S Series

Specifications

Input Specifications:

EP1S Series			
Items		High-speed terminal X0~X7	Normal terminals
Signal input method		Source/leakage type, user can choose via terminal "S/S"	
Electrical Specifications	Detection voltage	24VDC	
	Input impedance	3.3kΩ	4.3kΩ
	On input	400Ω external circuit resistance is less than	400Ω external circuit resistance is less than
	Off output	24kΩ external circuit resistance is more than	24kΩ external circuit resistance is more than
Filter function	Digital filtering	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		The maximum frequency of terminal X0, X1, X2, X3 can reach 100kHZ The maximum frequency of terminal X4, X5, X6, X7 can reach 10kHZ The sum of input frequency need to be less han 60kHZ	
Common terminal		There is only one common terminal which is terminal "S/S"	

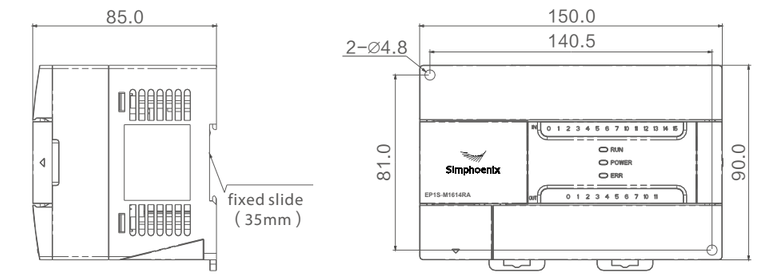
Output Specifications

EP1S Series			
Items		Relay output type	Output transistor type
Circuit source voltage		250VAC, 30VDC below	5~24VDC
Circuit isolation		Mechanical isolation of relay	Optocoupler isolation
Action indicattion		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
Minimum load		2mA/5VDC	5mA (5~24VDC)
Maximum Output current	Resistor load	2A/1 point 8A/4 point group common terminal 8A/8 point group common terminal	Y0, Y1, Y2, Y3: 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, Y2, Y3: 7.2W/24VDC, others:12W/24VDC
	lamp load	220VAC, 100W	Y0, Y1, Y2, Y3: 0.9W/24VDC, others:1.5W/24VDC
Response time	ON→OFF	20ms Max	Y0, Y1, Y2, Y3: 10μs others: 0.5ms
	ON→OFF	20ms Max	
Maximum output frequency		/	Each channel 4x100 kHZ
Output common terminal		Y0—COM0; Y1—COM1; Y2—COM2; Y3—COM3; 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
EP1S-M1006RA	85~264	10/6	DC 24V	Relay	10/1	6/6	No	No	Yes	No
EP1S-M1006TA	85~264	10/6	DC 24V	Transistor	10/1	6/6	No	No	Yes	Yes
EP1S-M1614RA	85~264	16/14	DC 24V	Relay	16/1	14/6	No	No	Yes	No
EP1S-M1614TA	85~264	16/14	DC 24V	Transistor	16/1	14/6	No	No	Yes	Yes
EP1S-M2416RA	85~264	24/16	DC 24V	Relay	24/1	16/7	No	No	Yes	No
EP1S-M2416TA	85~264	24/16	DC 24V	Transistor	24/1	16/7	No	No	Yes	Yes
EP1S-M3624RA	85~264	36/24	DC 24V	Relay	36/1	24/8	No	No	Yes	No
EP1S-M3624TA	85~264	36/24	DC 24V	Transistor	36/1	24/8	No	No	Yes	Yes

Installation and Dimension Figure



Model	W1(mm)	W(mm)	H1(mm)	H(mm)	D(mm)	Screw
EP1S-M1006RA	120.5	130	81	90	85	M4 screw & 35mm width DIN rail
EP1S-M1006TA						
EP1S-M1614RA	140.5	150				
EP1S-M1614TA						
EP1S-M2416RA	224.5	234				
EP1S-M2416TA						
EP1S-M3624RA						
EP1S-M3624TA						

EM3 Series Human Machine Interface (HMI)

EM3 series human machine interface is a new HMI launched by Simphoenix. The new appearance of mental strip drawing is completely integrated into electrical control cabinet. It offers a better visual effect and excellent touch experience through Cortex A8 processor, 24-bite true-color display in collocation with configuration software Simphoenixface with rich functions.

Typical Applications

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



Features

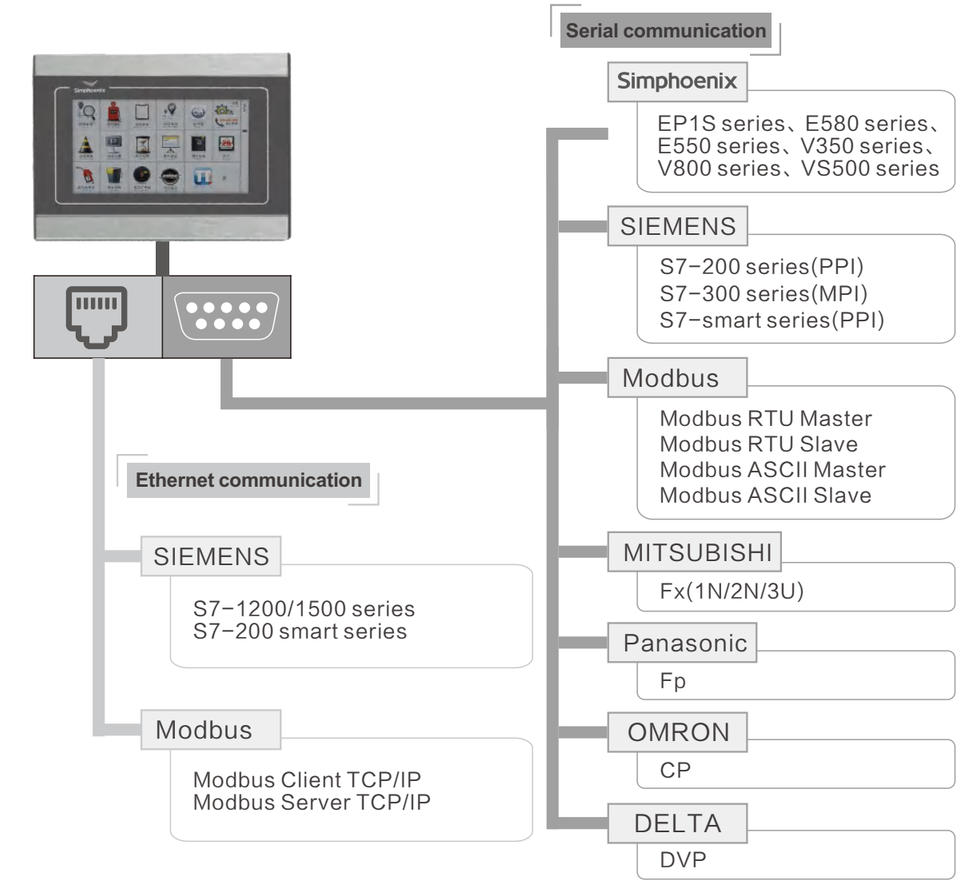
- Industrial design standard with high requirements. Support reliable running in terrible condition
- High collocation and large storage: A8 processor platform 256MB FLASH+128MB DDR3
- New shape design: Brushed design of outer frame metal strip
- Support Ethercat communication (ethernet model only), convenient for multi-screen online
- The interface is downward and the cable is routed from the bottom to save the space of the control cabinet

Specifications

MODEL	EM3-070E	EM3-070T	EM3-101E	EM3-101T
Performance specifications				
Display module	7"TFT	7"TFT	10"TFT	10"TFT
Display color	65536			
Precision	800×480	800×480	1024×600	1024×600
Backlight type	LED			
Brightness	350cd/m2			
LCD life	30000 hours			
Touch type	4−wire precision resistor network			
CPU	600MHz 32 bits			
Memory	256M FLASH+128M DRAM			
Real Time Clock	Support			
USB HOST	USB2.0 × 1, Type A(USB1), Support U disk to update firmware,configuration and store data			
USB Slave	USB2.0 × 1, Type B(USB2), Support program upload and download			
Serial interface	COM1: RS485 COM2: RS232			
Ethernet	10M/100M adaptive	Not support	10M/100M adaptive	Not support
DB9	Plug, Non−isolated, RS485: 7 − B, 8 − A, RS232: 2 − RXD, 3 − RTX, 5 − GND			
Electrical Specifications				
Rated power	7.2W			
Rated voltage	DC24V			
Input range	20.4~28.8VDC			
Allow power loss	10ms			
Insulation resistance	Exceed 50MΩ@500VDC			
Withstand voltage performance	500 VAC 1min			
Structural specifications				
Shell color	Dark gray + Silver			
Shell material	ABS+PC plastic, metal			
Appearance dimension	230×166×39mm	230×166×39mm	272×212×39mm	272×212×39mm
Installation dimension	192×138mm	192×138mm	260×200mm	260×200mm
Weight	0.75Kg	0.75Kg	1.0Kg	1.0Kg
Environmental specifications				
Working temperature	0～50℃			
Working humidity	10～90%RH（No condensation）			
Storage temperature	−20～60℃			
Storage humidity	10～90%RH（No condensation）			
Anti−vibration ability	10～25Hz（2G/30min in X、Y、Z）			
Cooling method	Air cooling			
Product certification				
Front panel protection level	IP65（4208−93）			
CE certification	EN61000−6−2:2005/EN61000−6−4:2007			

EM3 Series

Interface Description



Installation and Dimension Figure