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National High-tech Enterprise

International Accreditation

System Certifica-tion

Quality Management System

Patented Product

Patented Product

KCLY®

PRODUCT MANUALS

SHENZHEN KCLY ELECTRIC CO ., LTD.

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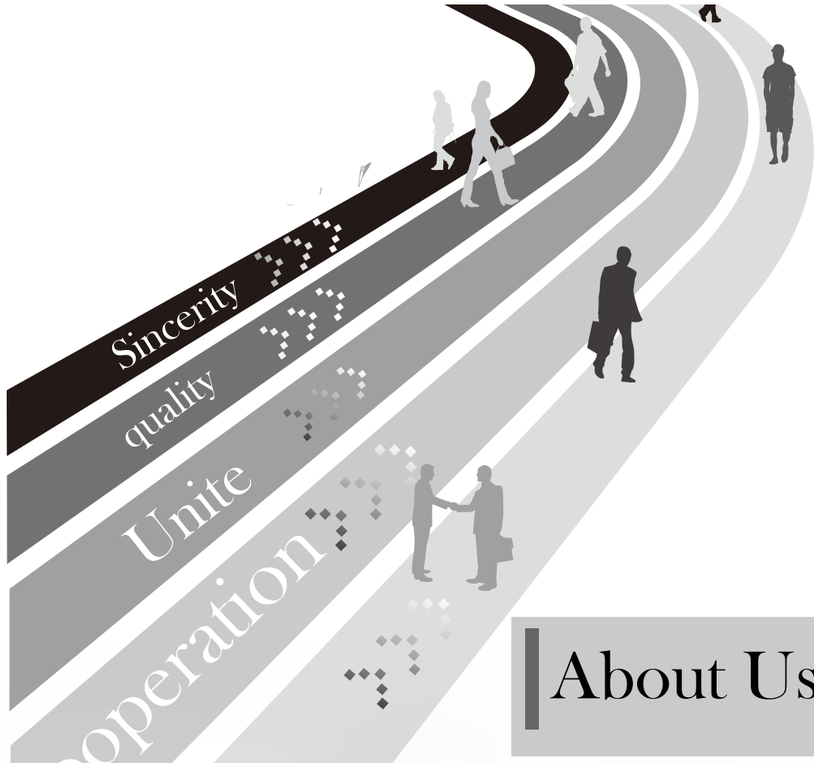


About Us

SHENZHEN KCLY ELECTRICCO., LTD., established in 2004, is an innovative national high-tech enterprise with independent intellectual property rights. We specialize in the R & D of high, medium and low frequency inverters and energy-saving control systems, the production and sales of industrial automation and energy-saving products such as frequency inverters, servo drives and new energy automotive motor drives. We are committed to serving medium and high equipment manufacturers to provide integrated systems and personalized solutions. Our technology and management teams are one of the earliest to independently engage in inverters with more than 20 years of experience in professional theoretical research, product development and quality management. KOC INVERTER adopts world-leading technology solutions such as vector control and torque control technologies, which has reached the internationally advanced level to be directly capable to replace the brands from Europe and the United States, Japan and others. Strictly in accordance with the integrity concept of "Customer first, truth seeking, rigorous, pioneering and innovation" to provide our customers with strong technical support, we have established a new model for our industry and won the trust and strong support of our customers

As quality is the life of an enterprise, we strictly follow ISO9001 standard to manage quality and our products have passed the inspection by national authoritative agencies and got CE certification. In order to meet customer requirements and market demands better, we strive to improve the core competitive-ness of our products and adhere to technological innovation by investing 10% of sales revenue in the research and development of new technologies and new products continuously to improve the automation degree of customer applications

As customers are the source of the enterprises we aim at "the objectives of meeting and achieving customer requirements". With unremitting efforts, our products have been widely used in petroleum, chemical engineering, steel, metallurgy, electric power, building materials, water, plastics, textiles, mining, printing, packaging and other industries to create value for our customers.

Vision/Mission/Culture

Culture: United to Strive and Create the Future
Mission:Technology Innovation, United to Win-win
Vision: Pursue Excellent Quality and high Customer Value

Applications

Large-sized industrial production line

Equipment

Large-sized mechanical factory

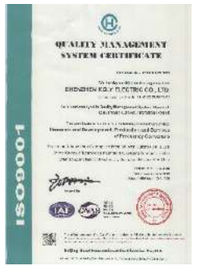
Mining machine

Metallurgical industry

Chemical Industry

Power plant

Aircraft manufacturing



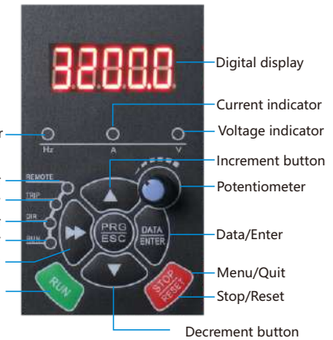
KOC100 Low power inverters

KOC100 Simple Inverter

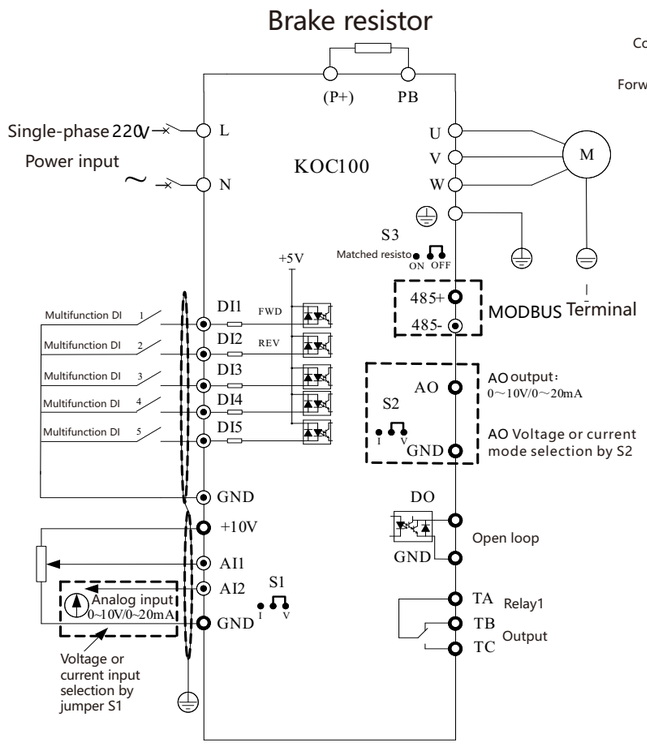
Delicate design easy to use

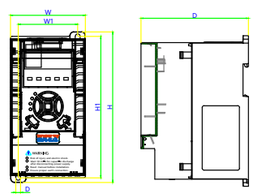
Single-phase： 200-240V.....0.25-2.2KW
Three-phase： 380-460V.....0.4-2.2KW

Operation panel



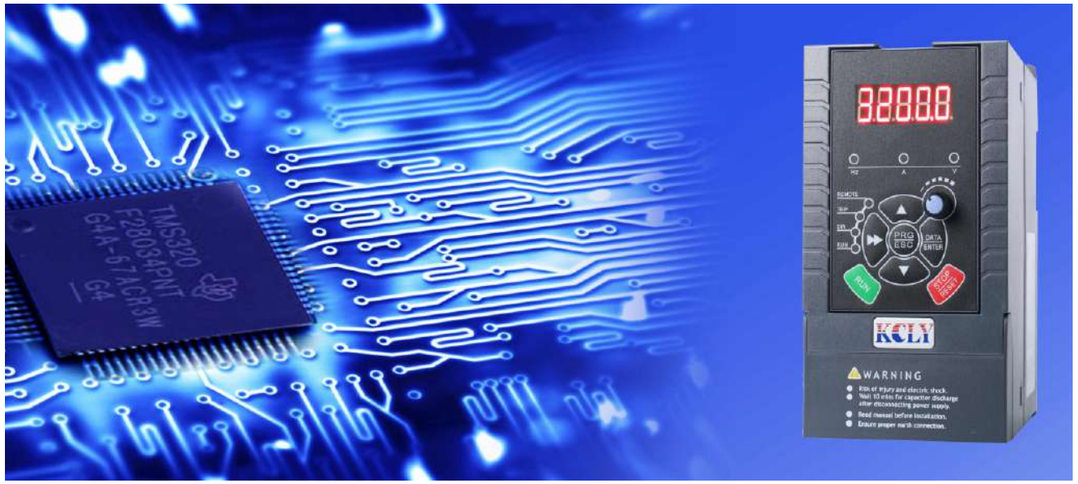
Master Control Schematic





Installation Dimension

Inverter Types	Shape and Installation dimension						Mass (kg)
	W	W1	H	H1	D	Φd(mm)	
Single-phase220V							
KOC100-0R4S2	82.6	65.5	166	154	118.5	Φ5.2	
KOC100-R75S2							
KOC100-1R5S2							
Three-phase380V							
KOC100-0R4T4	82.6	65.5	166	154	118.5	Φ5.2	
KOC100-R75T4							
KOC100-1R5T4							
KOC100-2R2T4							



Parameter configuration

Inverter Types	Power Capacity KVA	Current input A	Current output A	Adaptive motor KW	Adaptive motor HP	Heat consumption KW	Brake Resistor Power Recommend	Brake Resistor Value Recommend	Brake unit
Single-phase 220V-240V									
KOC100-0R4S2	1.0	5.4	2.3	0.4	0.5	0.016	80W	≈200 Ω	Optional
KOC100-R75S2	1.5	8.2	4	0.75	1	0.030	80W	≈150 Ω	
KOC100-1R5S2	3	14	7	1.5	2	0.055	100W	≈200 Ω	
Three-phase 220V-240V									
KOC100-0R4T4	1.0	2.5	1.3	0.4	0.5	0.015	80W	≈200 Ω	Optional
KOC100-R75T4	1.5	3.4	2.1	0.75	1	0.027	80W	≈150 Ω	
KOC100-1R5T4	3	5	3.8	1.5	2	0.050	100W	≈100 Ω	
KOC100-2R2T4	4	5.8	5.1	2.2	3	0.066	100W	≥ 70 Ω	

Technical Specifications

Voltage in favor of single-phase 220V, hree-phase 220V and three-phase of 380V

Motor types in favor of three-phase asynchronous motor Open loop vector control communication in favor of Modbus-RTU

Vector control, Super sensorless vector control algorithm. High response, strong low band loading capacity and in favor of torque control of SVC.

Electric Features

Max.Frequency Vector control：0～300Hz
V/Fcontrol：0～3000Hz

Carrier frequency 0 . 5kHz~16kHZ automatically adjusted in accordance to load

Frequency input resolution Digital set：0 . 01 Hz
Analog set:Max. frequency×0.025%

Control mode SVC,V/Fcontrol

Speed range 1 : 100 (SVC)

Precision of steady speed ± 0 . 5 %(SVC)

overload capacity G type: 60s under 150% rated current; 30s under 180% rated current
P type: 60s under 120% rated current; 30s under 150% rated current

Environmental Features

Operation place: Indoor, no exposed to sun directly, no dust Corrosive gas, flammable gas, oil mist,Water vapor, dripping water or salt.

Altitude: Less than 1000M

Ambient temperature: -10℃~40℃ (derating when used under 40℃~50℃)

humidity: Less than 95% RH, no water condensation

vibration: Less than 5.9 m/s(0.6g)

Storage temperature: -20℃~+ 60℃

Product Model

KOC100-2R2T4G

- KOC100 — series
- 2R2 — Adaptive motors
- T4 — phase: T4 380-460V, S2 200-240V
- G — Product type

Design of horizontal duct

The KOC 100 series adopts the heat dissipation scheme with dual-channel horizontal duct heat dissipation technology. It adopts the basic concept of air inlet in the front and outlet in the rear to keep the wind flowing horizontally. At the same time, the exhaust fan is matched with the airflow speed to achieve the best heat dissipation effect by removing the heat from IGBT module and heat sink. According to the diagram drawn on the right, we can better understand how the horizontal ducts dissipate heat.

Wide Usage

Fan/Water pump
Garage/roller door
small lifting machinery like

Small machinery such as mixer/juicer/noodle maker
small handling and rotating machinery like conveyor/
horizontal handling centrifugal separators/grinding machines

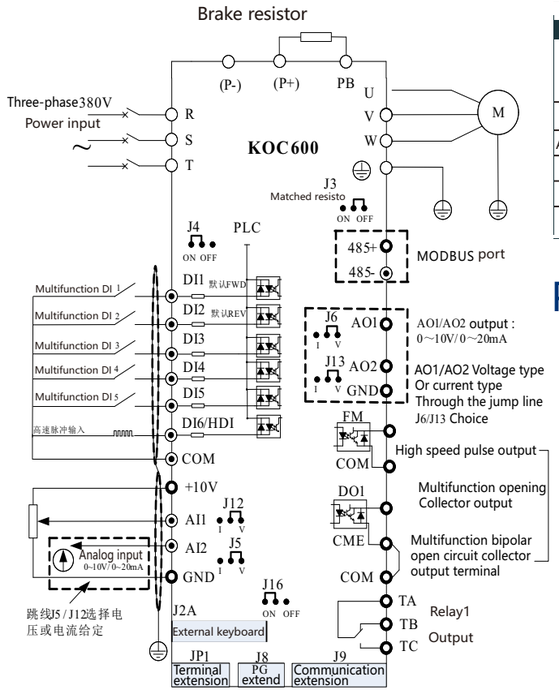
Agricultural Machinery /
Woodworking Machinery /
Fitness equipment

Operation panel

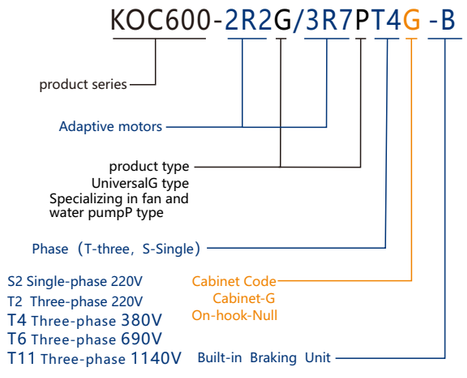
Personalized function	
Excellent performance	Use high-performance current vector control techniques to control asynchronous and synchronous motors
Instant stop	In case of instantaneous power failure, the decrement voltage is compensated by the load feedback energy to keep the inverter running for a short time
Rapid current limiting	Avoid frequent over current faults in the inverter
Virtual IO	Five groups of DI & DO to achieve simple logical control
Timing control	Timing control from0.0Minto 6500.0Min
Motor switch	Two set of motor parameters to achieve the switch control of two motors
Multi-bus support	Support RS-485now and follow-up Profibus-dp Can Open
Motor over-temperature protection	Input motor temperature analog value to the PG port to realize motor over-temperature protection
Multi encoder support	Support differential, open collector, UVW, resolver, sine cosine and other encoders
Powerful software	Support parameter operation and virtual oscilloscope to monitor inverters

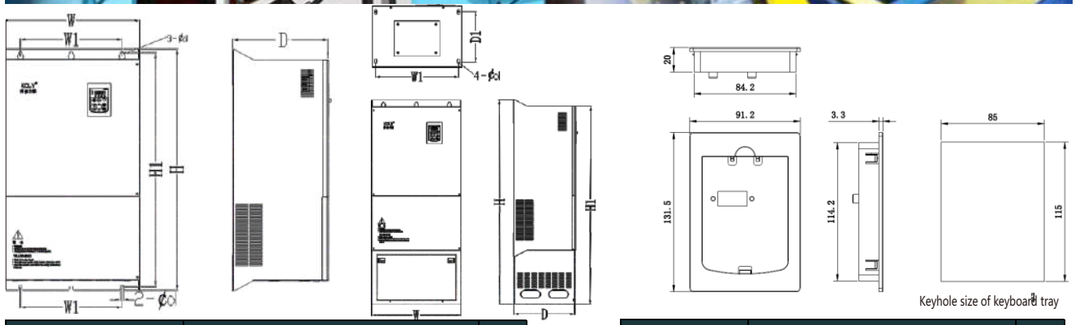
Using environment	
Operation place	Indoor, no exposed to sun directly, no dust Corrosive gas, flammable gas, oil mist, Water vapor, dripping water or salt.
Altitude	Less than 1000M
Ambient temperature	- 10℃～40℃ (de rating when used under 40℃～50℃)
humidity	Less than 95% RH, no water condensation
vibration	Less than 5.9 m/s(0.6g)
Storage temperature	- 20℃～+60℃

Master Control Schematic



Product model





Frequency transformer model	Boundary and installation dimension (mm) W	W1	H	H1	D	D1	Φd	weight (kg)
Three-phase power 380V 50/60Hz								
KOC600-R75G/1R5PT4	118	106.5	185	175.5	157	—	Φ4.5	
KOC600-1R5G/2R2PT4								
KOC600-2R2G/3R7PT4								
KOC600-3R7G/5R5PT4								
KOC600-5R5G/7R5PT4	160	148	247	235	177	—	Φ5.5	
KOC600-7R5G/011PT4								
KOC600-011G/015PT4								
KOC600-015G/018PT4	220	126	349	334	194	—	Φ7	
KOC600-018G/022PT4	225	140	400	379	184.7	—	Φ7	
KOC600-022G/030PT4								
KOC600-030G/037PT4	290	230	455	440	218	—	Φ7	
KOC600-037G/045PT4								
KOC600-045G/055PT4	320	230	555	540	240	—	Φ10	
KOC600-055G/075PT4								
KOC600-075G/090PT4	410	320	635	610	239	—	Φ12	
KOC600-090G/110PT4								
KOC600-110G/132PT4	420	320	654	630	303	—	Φ12	
KOC600-132G/160PT4								
KOC600-160G/200PT4	560	420	848	820	403	—	Φ12	
KOC600-200G/220PT4								
KOC600-220G/250PT4								
KOC600-250G/280PT4	720	600	1018	980	403	—	Φ14	
KOC600-280G/315PT4								
KOC600-315G/355PT4								

Frequency transformer model	Boundary and installation dimension (mm) W	W1	H	H1	D	D1	Φd	weight (kg)
Three-phase power 220V 50/60Hz								
KOC600-0R4GT2	118	106.5	185	175.5	157	—	Φ4.5	
KOC600-R75GT2								
KOC600-1R5GT2								
KOC600-2R2GT2								
KOC600-3R7GT2	160	148	247	235	177	—	Φ5.5	
KOC600-5R5GT2	220	126	349	334	194	—	Φ7	
KOC600-7R5GT2								
KOC600-011GT2	225	140	400	379	184.7	—	Φ7	
KOC600-015GT2	290	230	455	440	218	—	Φ7	
KOC600-018GT2								
KOC600-022GT2	320	230	555	540	240	—	Φ10	
KOC600-030GT2								
KOC600-037GT2	410	320	635	610	239	—	Φ12	
KOC600-045GT2								
KOC600-055GT2	460	320	654	630	340	—	Φ12	
KOC600-075GT2	560	420	847	820	348	—	Φ14	

Parts

Encoder card

Differential PG card
UVW differential PG card
rotary transformer card
Open collector PG card

Reactor

AC input reactor
AC output reactor
DC reactor
Positive metaphysic filter

Operation panel outlining installation

External keypad
Data line 1M
Data line 2M
Data line 5M

Specification and parameter of KC6070C/KC6079C

Plastic shell, lower cost and reliable
Main board three-anti paint treatments, suitable for all kinds of harsh environment.
High resolution, high brightness, LED backlight, more energy conservation and environment protection
Tidy double line communication joint, main joint of USB supply to data storage and download
Entirely new configuration software, plentiful map depot, powerful functional

7 inch 800 x 480TFT liquid crystal
Plastic shell, thickness only 38mm
USBDevice2.0, high-speed program download
USB main support, support U disk /USB keyboard and mouse expansion equipment.
Main board three anti-paint treatments, suitable for harsh industrial environment
Comply with RoHS

Electrical specifications

Rated power	<10W
Rated voltage	DC24V working range DC9V ~ 28V
Power protection	Lightning surge protection
Allow loss of power	<5m
	Conforming to EN61000-6-2:2005, EN61000-6-4:2007 standard
SCE&RoHS	Conforms to RoHS lightning surge + 1KV, group pulse + 2KV
	Electrostatic contact with 4KV, air discharge 8KV

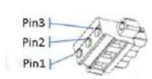
Environment requirement

working temperature	0～50℃
Storage temperature	-20～60℃
Ambient humidity1	0～90%RH (non-condensing)
Aseismic	10～25Hz (X、Y、Z 2G/30min)
Cooling mode	Natural air cooling

Hardware parameters

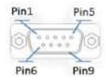
Display screen	7" TFT LCD screen / 9 .7" TFT LCD screen
Resolution	800×480 / 1024×768
Colors	24position / 16 bit
Brightness	360 cd/2m / 350 cd/2m
Backlight	LED
LCD lifetime	50000 hours
Touch screen	4-wire industrial resistance touch screen (surface hardness 4H)
CPU	600MHz ARM Cortex-A8
Storage	128M Flash +128M DDR3
RTC	Real-time built-in clock
Ethernet	N/A
USB port	One USBDevice2.0; One USB Host2.0
Method of download program	USB download /U disk download
Serial communication port	COM1:RS232/RS485/RS422
	COM3:RS232

Power terminal



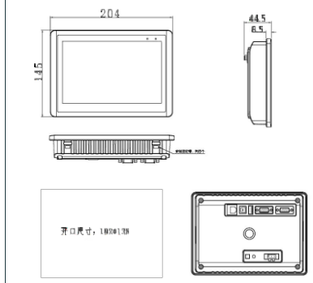
Pin1	DC24V
Pin2	0V
Pin3	FG

COM1/COM3 Communication port (9 needles)

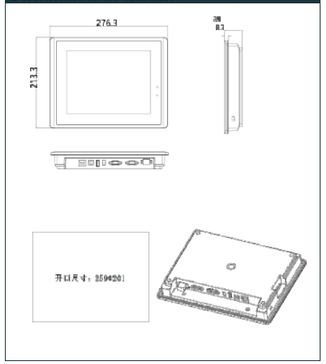


Pin1	Rx-(B)
Pin2	RxD (COM1RS232)
Pin3	TxD (COM1RS232)
Pin4	Tx-
Pin5	GND
Pin6	Rx+(A)
Pin7	RxD (COM3RS232)
Pin8	TxD (COM3RS232)
Pin9	Tx+

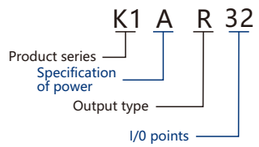
Dimension of install KC6070C



Dimension of install KC6079C



Specification and parameter of PLC



Product series

K1 series-economical main engine,
K2 series-high-performance main engine,
K3 series-standard main engine
B1 series-motion control main engine

I/O points

10 points, 16points,
20 points, 24 points, 32 points, 40 points,
48 points and 60 points can be choice

Power specification

A: 220V AC supply D:24V DC supply

Output type

R:electric relay output T:transistor output

Note:
R in the following model represents relay output,
T represents transistor output.

Main engine of PLC

On-off value expand module
Simulation value expand module
Communication expand module

K1 series-economical main engine

Type		Specification			Maximum extension module	Kg	Outline dimension
24V DC	220V AC	DI	DO	COM Port			
K1DR10	K1AR10	6	4R	RS232 + RS485	NO	0.65	 93×95×82mm
K1DT10	K1AT10	6	4T	RS232 + RS485	NO	0.65	
K1DR16	K1AR16	8	8R	RS232 + RS485	NO	0.65	
K1DT16	K1AT16	8	8T	RS232 + RS485	NO	0.65	
K1DR24	K1AR24	16	8R	RS232 + RS485	NO	0.8	 131×95×82mm
K1DT24	K1AT24	16	8T	RS232 + RS485	NO	0.8	
K1DR32	K1AR32	16	16R	RS232 + RS485	NO	0.8	
K1DT32	K1AT32	16	16T	RS232 + RS485	NO	0.8	
K1DR48	K1AR48	28	20R	RS232 + RS485	NO	0.9	 177×95×82mm
K1DT48	K1AT48	28	20T	RS232 + RS485	NO	0.9	
K1DR60	K1AR60	36	24R	RS232 + RS485	NO	0.9	
K1DT60	K1AT60	36	24T	RS232 + RS485	NO	0.9	

A total of 24 models; Host points: 10 points, 16 points, 24 points, 32 points, 48 points and 60 points are optional; program capacity is 48K;
The extension module is not supported;
Cost-effective, economy and practical.
External power supply AC220V or DC24V;
Removable terminals and rechargeable batteries are used to save real-time clock;
the platform is updated with ARM architecture, and its running speed is increased by more than 10 times;
the two communication ports (RS232+RS485) can be used for programming and networking communication.

K2 series - standard type host

Type		Specification							Outline dimension
24V DC	220 AC	DI	DO	HSP input	HSP output	5 COM Port	Maximum extension module	Kg	
K2DR16	K2AR16	8	8R	2P200KHz		RS232 + RS485	7	0.65	 93×95×82mm
K2DT16	K2AT16	8	8T	2P200KHz	2P200KHz	RS232 + RS485	7	0.65	
K2DR24	K2AR24	16	8R	2P200KHz		RS232 + RS485	7	0.8	 131×95×82mm
K2DT24	K2AT24	16	8T	2P200KHz	2P200KHz	RS232 + RS485	7	0.8	
K2DR32	K2AR32	16	16R	2P200KHz		RS232 + RS485	7	0.8	
K2DT32	K2AT32	16	16T	2P200KHz	2P200KHz	RS232 + RS485	7	0.8	
K2DR48	K2AR48	28	20R	2P200KHz		RS232 + RS485	7	0.9	 177×95×82mm
K2DT48	K2AT48	28	20T	2P200KHz	2P200KHz	RS232 + RS485	7	0.9	
K2DR60	K2AR60	36	24R	2P200KHz		RS232 + RS485	7	0.9	
K2DT60	K2AT60	36	24T	2P200KHz	2P200KHz	RS232 + RS485	7	0.9	

A total of 20models; Host points: 16 points, 24 points, 32 points, 48 points and 60 points are optional; program capacity is 48K;
Maximum extension module is 7; External power supply AC220V or DC24V;
Removable terminals and rechargeable batteries are used to save real-time clock;
the platform is updated with ARM+FPGA architecture, and its running speed is increased by more than 10 times;
Supports 2 phase 200KHz A/B high pulse input and 2 phase 200KHz A/B high pulse output;
The two communication ports (RS232+RS48, 5) can be used to extend 3 COM Port, the 5 COM Port can be use to programming and networking communication.

K3 series -high-performance

Type		Specification							Outline dimension
24V DC	220 AC	DI	DO	HSP input	HSP output	5 COM Port	Maximum extension module	KG	
K3DR16	K3AR16	8	8R	4P200KHz		RS232 + RS485	7	0.65	93×95×82mm
K3DT16	K3AT16	8	8T	4P200KHz	4P200KHz	RS232 + RS485	7	0.65	
K3DR24	K3AR24	12	12R	4P200KHz		RS232 + RS485	7	0.65	
K3DT24	K3AT24	12	12T	4P200KHz	4P200KHz	RS232 + RS485	7	0.65	
K3DR32	K3AR32	16	16R	4P200KHz		RS232 + RS485	7	0.8	131×95×82mm
K3DT32	K3AT32	16	16T	4P200KHz	4P200KHz	RS232 + RS485	7	0.8	
K3DR40	K3AR40	28	20R	4P200KHz		RS232 + RS485	7	0.8	
K3DT40	K3AT40	28	20T	4P200KHz	4P200KHz	RS232 + RS485	7	0.8	
K3DR60	K3AR60	36	24R	4P200KHz		RS232 + RS485	7	0.9	177×95×82mm
K3DT60	K3AT60	36	24T	4P200KHz	4P200KHz	RS232 + RS485	7	0.9	

A total of 20models; Host points: 16 points, 24 points, 32 points, 40 points and 60 points are optional; program capacity is 48K;
Maximum extension module is 7; External power supply AC220V or DC24V;
Removable terminals and rechargeable batteries are used to save real-time clock; the platform is updated with ARM+FPGA architecture,
and its running speed is increased by more than 10 times;
The two communication ports (RS232+RS485) can be used to extend 3 COM Port, the 5 COM Port can be use to programming and networking communication.
The single machine supports 8 point (4P200KHz) high pulse input and 8 point (4P200KHz) high pulse output;

B1 Series-Motion control type host

It supports linear interpolation, circular interpolation and servo pulse output.
It support absolute address and relative address, reverse backlash compensation and electrical origin redefinition, etc.

Type		Specification							Outline dimension
24V DC	220V AC	DI	DO	HSP input	HSP output	5 COM Port	Maximum extension module	Kg	
B1DT16	B1AT16	8	8	4P200KHz	4P200KHz	RS232+RS485	7	0.65	93×95×82mm
B1DT24	B1AT24	12	12R	6P200KHz	6P200KHz	RS232+RS485	7	0.65	
B1DT40	B1AT40	20	20R	8P200KHz	8P200KHz	RS232+RS485	7	0.8	131×95×82mm
B1DT60	B1AT60	36	24T	8P200KHz	8P200KHz	RS232+RS485	7	0.9	177×95×82mm

A total of 8models; Host points: 16 points, 24 points, 40 points and 60 points are optional; program capacity is 48K;
Maximum extension module is 7; External power supply AC220V or DC24V;Supports linear interpolation, circular interpolation for any 2 axis.
Removable terminals and rechargeable batteries are used to save real-time clock; the platform is updated with ARM+FPGA architecture,
and its running speed is increased by more than 10 times;
Support servo pulse output, absolute address and relative address, reverse backlash compensation, origin regression and electrical origin redefinition, etc.
The single machine supports 16 point (8P200KHz) high pulse input and 16 point (8P200KHz) high pulse output;
The two communication ports (RS232+RS485) can be used to extend 3 COM Port, the 5 COM Port can be use to programming and networking communication.

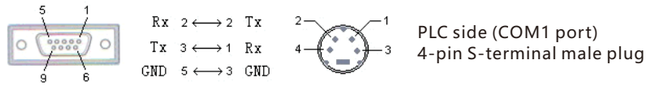
Communication extension module

Type	Specification	Kg	Outline dimension
K01RS	Strip isolation, One RS232/RS485 communication port, Modbus RU/ASCII protocol, free communication protocol, KCLYbus high speed communication protocol, baud rate 1200 to 57600bus	0.4	30×95×82mm
K01GL	Strip isolation, Modbus RTU/ASCII protocol, free communication protocol, KCLYbus high speed communication protocol, baud rate 1200to115200bus	0.4	
K01ZB	Zigbee wireless communication	0.4	
KPCZB	PC terminal RS232/RS485/USB conversion Zigbee module	0.85	177×95×82mm

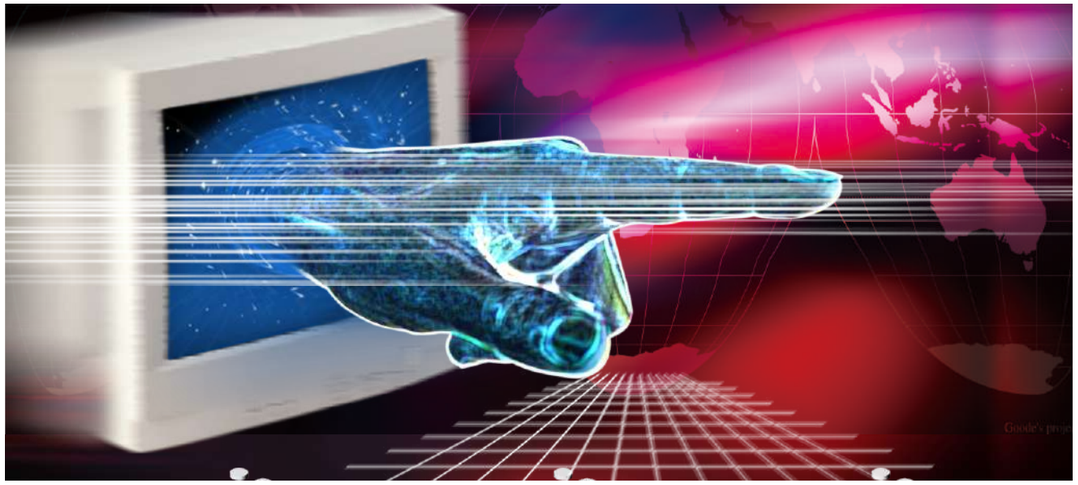
A total of 4 models, which are divided into isolated communication expansion module and wireless communication expansion module.
Power supply: internal power supply DC24V.
Baud rate: 1200~115200bps, both master / slave mode can be used.
A single communication port module can extend 1 or 2 communication ports, and each communication port RS232/RS485 is optional.
Support Modbus RTU/ASCII protocol, free communication protocol and KCLYBus high-speed communication protocol.
It can be used as the expansion module of the host except the C series; the number of communication ports of the system is increased.

Wiring diagram of programming cable

Computer side (RS-232)
DB9 female plug



PLC side (COM1 port)
4-pin S-terminal male plug



Switching module I/O extension module

Type		Specification			Kg	Outline dimension
24V DC	220V AC	DI	DO	Communication ports		
KD16DI		16		Rs485, Support remote function	0.5	70×95×82mm
KD16DR			16	Rs485, Support remote function	0.5	
KD16DT			16	Rs485, Support remote function	0.5	
KD16XR	R	8	8	Rs485, Support remote function	0.5	
KD16XT		8	8	Rs485, Support remote function	0.5	
KD24DI	KA24DI	24		Rs485, Support remote function	0.6	93×95×82mm
KD24XR	KA24XR	12	12	Rs485, Support remote function	0.6	
KD24XT	KA24XT	12	12	Rs485, Support remote function	0.6	
KD40DI	KA40DI	40		Rs485, Support remote function	0.8	131×95×82mm
KD36DR	KA36DR		36	Rs485, Support remote function	0.8	
KD36DT	KA36TD		36	Rs485, Support remote function	0.8	
KD40XR	KA40XR	20	20	Rs485, Support remote function	0.8	
KD40XT	KA40XT	20	20	Rs485, Support remote function	0.8	
KD64XR	KA64XR	32	32	Rs485, Support remote function	0.9	177×95×82mm
KD64XT	KA64XT	32	32	Rs485, Support remote function	0.9	

Extension module with communication port: not only support parallel bus, but also support serial bus. When the serial bus is extended (the remote IO function), it is not restricted by the number of system points, and can be distributed install.

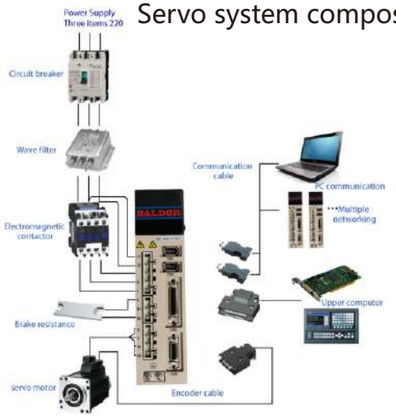
A total of 15 models, according to the point number, can be divided into 16 points, 24 points, 36 points, 40 points and 64 points switch module. It can be used as a switch expansion module for any host. All modules are provided with485 communication ports, support single machine operation and can be used for remote IO. All modules can support DC24V. Power supply, when the expansion host is used, the power supply can also be supplied without power supply. If the power supply is insufficient, the DC24V can be used directly. 24VDC switch module is without DC24V power output.

Analog I/O extension module

Type	Specification				Kg	Outline dimension
24V DC	AI	AO	conversion accuracy	Communication ports		
KD04AI	4		12 bit	Rs485, Support remote function	0.5	70×95×82mm
KD04AO		4	12 bit	Rs485, Support remote function	0.5	
KD04 AX	2	2	12 bit	Rs485, Support remote function	0.5	
KD04RC	4Thermal resistance		16 bit	Rs485, Support remote function	0.6	
KD04TC	4Thermocouple		16 bit	Rs485, Support remote function	0.6	
KD08TC	8Thermocouple		16 bit	Rs485, Support remote function	0.8	
KD08AI	8		12 bit	Rs485, Support remote function	0.8	93×95×82mm
KD08AO		8	12 bit	Rs485, Support remote function	0.8	
KD08 AX	4	4	12 bit	Rs485, Support remote function	0.8	
KD08RC	8Thermal resistance		16 bit	Rs485, Support remote function	0.9	

Extension module with communication port: not only support parallel bus, but also support serial bus. When the serial bus is extended (the remote IO function), it is not restricted by number of system points, and can be distributed install.

A total of 10 models, which are divided into analog, thermal resistance and thermocouple modules. The number of input points can be divided into 4 points and 8 points.It can be used as an extension module for any host.
Power supply: internal DC24V or external 24VDC optional;The DC24V power supply analog module,without DC24V power output;
With RS485 communication port, supports the use of single machine, and can be used for remote IO connection.
Thermal resistance, thermocouple internal DC24V or external DC24V power supply are optional.
Linear AI and AO support 6 types of signals: [4,20]mA, [0,20]mA, [1,5]V, [0,5]V, [0,10]V, [-10,10]V. Thermoelectric resistance support: Pt100, Pt1000, Cu50, Cu100;Thermocouple support：S、K、T、E、J、B、N、R、Wre3/25 Wre5/26、[0,20]mV、[0,50]mV、[0,100]mV
Hardware conversion accuracy: analog module is 12 bit A/D hardware conversion.
Code value range: 0~32000, temperature module is 16 bit A/D hardware conversion.



Servo system composition

KOC- B600 Servo

Automatic gain adjustment makes debugging easier.
Automatic resonance suppression, easy adapt to various institutions.
Speed command response frequency is 550Hz, and the instruction follows the best state.
Includes control modes such as position, speed, and torque for various applications.
More than 17bits of motor encoder (160000ppr), more accurate positioning, better low-speed characteristics

380V series

Drive model		B600H10 - 3R5T3U	B600H10 - 5R4T3U	B600H10 - 8R4T3U	B600H10 - 012T3U	B600H10 - 020T3U
Rated output current		3.5A	5.4A	8.6A	12.0A	20A
Structure size		B		C		
Input power		Three -phase AC380 V (-15～+10 %), 50\60B600				
Use environment	Temperature	Working : 0～45°C Storag : -20～80°C				
	Humidity	<90% （No condensation ）				
	Vibration	<4.9m/ S^2（0.5 G）, 10～60B600				
Control method		IPMSVPAM current vector control				
Basic control method		Position control, speed control, torque control				
Regenerative braking		Built -in resistance				
Control characteristics		Speed response frequency. Max. 1.2kB600 (When load moment of inertia=motor moment of inertia)				
		Speed fluctuation rate: <±0.01 (load 0 to 100%)				
		Speed ratio 1:5000				
		Input pulse frequency: ≤1MB600				
Control input		1) servo makes the energy S -ON; 2) alarm to clear the ALRS; 3) forward stroke limit P -OT; 4) reverse stroke limit N -OT; 5) deviation counter zero CLE; 6) instruction pulse is forbidden to INH; 7) The second electronic gear ratio GEAR; 8) internal sp eed selection 1 SC1; 9) internal speed selection 2 SC2; 10) zero speed clamp under simulated velocity mode position ZCLAMP; 11) change of turning under the internal velocity mode; 12) the change of steering under simulated velocity mode; 13) Internal speed mode and analog speed switch mode. 14) forward startup under the simulated velocity mode; 15) reverse startup under simulated velocity mode				
Control output		1) The servo is ready for output,2) servo alarm output,3) Positioning completed output Speed reached output				
Position control	Input	1) pulse + direction2) CCW pulse/CW pulse 3) Two -phase AB orthogonal pulse				
	Electronic gear ratio	1～32767/1 ～32767Translation error				
	Feedback pulse	Max.23bit				
Speed control		4 internal speeds				
Acceleration and deceleration		Set the acceleration and deceleration time 1 ～10000mS （0—4000 r/min ）				
Monitor display function		Motor speed, current position, position command, position deviation, motor torque, motor current, current control method, position command pulse frequency, speed command, torque command, rotor absolute position, input terminal status, output terminal status, encoder UVW input signal, encoder zero pulse, fault code display, etc				
Protective function		Module failure, overvoltage, under voltage, hardware over current, software over current, analog A channel no current, analog B channel no current, speed over tolerance, position over tolerance, CPLD failure, encoder failure, speed regulator saturation failure, Current regulator saturation fault, etc.				
Display operation		5bit LED digital tubes, 4 buttons				
Applicable load		Less than 5 times the motor inertia				

220V series

Drive model		B600H10 - 1R6S2U	B600H10 - 2R8S2U	B600H10 - 3R8S2U	B600H10 - 5R5S4U	B600H10 - 7R6S4U	B600H10 - 9R5S4U	B600H10 - 012S4U	B600H10 - 018S4U
Rated output current		1.6A	2.8A	3.8A	5.5A	7.6A	9.5A	12.0A	18A
Structure size		A			B			C	
Input power		Sing -phase AC220 V (-15～+10%) 50\60B600			Three -phase AC220V (-15～+10%), 50\60B600				
Use environment	Temperature	Working : 0～45 °C Storage : -20～80 °C							
	Humidity	< 90% （No condensation ）							
	Vibration	<4.9 m/S^2（0.5 G）, 10～60B600							
Control method		IPMSVPAM current vector control							
Basic control method		Position control, speed control, torque control							
Regenerative braking		External resistance			Built -in resistance				
Control characteristics		Speed response frequency. Max. 1.2kB600 (When load moment of inertia= motor moment of inertia)							
		Speed fluctuation rate: <±0.01 (load 0 to 100%)							
		Speed ratio 1:5000							
		Input pulse frequency: ≤1MB600							
Control input		1) servo makes the energy S -ON; 2) alarm to clear the ALRS; 3) forward stroke limit P -OT; 4) reverse stroke limit N -OT; 5) deviation counter zero CLE; 6) instruction pulse is forbidden to INH; 7) The second electronic gear ratio GEAR; 8) internal speed selection 1 SC1; 9) internal speed selection 2 SC2; 10) zero speed clamp under simulated velocity mode positio n ZCLAMP; 11) change of turning under the internal velocity mode; 12) the change of steering under simulated velocity mode; 13) Internal speed mode and analog speed switch mode. 14) forward startup under the simulated velocity mode; 15) reverse startup under simulated velocity mode							
Control output		1) The servo is ready for output,2) servo alarm output,3) Positioning completed output Speed reached output							
Position control	Input	1) pulse + direction2) CCW pulse/CW pulse 3) Two -phase AB orthogonal pulse							
	Electronic gear ratio	1～32767/1 ～32767Translation error							
	Feedback pulse	Max. 23bit							
Speed control		4 internal speeds							
Acceleration and deceleration		Set the acceleration and deceleration time 1 ～10000mS （0—4000 r/min ）							
Monitor display function		Motor speed, current position, position command, position deviation, motor torque, motor current, current control method, position command pulse frequency, speed command, torque command, rotor absolute position, input terminal status, output terminal status, encoder UVW input signal, encoder zero pulse, fault code display, etc							
Protective function		Module failure, overvoltage, under voltage, hardware over current, software over current, analog A channel no current, analog B channel no current, speed over tolerance, position over tolerance, CPLD failure, encoder failure, speed regulator saturation failure, Current regulator saturation fault, etc.							
Display operation		5bit LED digital tubes, 4 buttons							
Applicable load		Less than 5 times the motor inertia							

KOC1000 – 01 Solar pump inverter

Photovoltaic pump special inverter function introduction:

1. Using water storage instead of power storage, no need for battery assembly.
2. MPPT maximum power tracking, which makes full use of photovoltaic cell power generation efficiency.
3, PID output upper and lower limit frequency to ensure the normal operation of photovoltaic pump;
4, Two sets of PI parameters are flexibly adjusted to achieve fast response of PV pumps and steady state adjustment error without oscillation.
5, Photovoltaic pump water level control, high level dormancy, low level automatic wake-up call, water level sensor fault protection, etc.
6, Photovoltaic pump under-load protection prevents air pumping after water is dried up.
7, Weak light protection at sunset and sunrise, light intensity wakes automatically.
8, support 220V single-phase pump control, the control effect can be comparable with three-phase pump;
9, The user can connect the battery board wire to the motor wire and it can be used normally as fool-proof operation.

Inverter specification

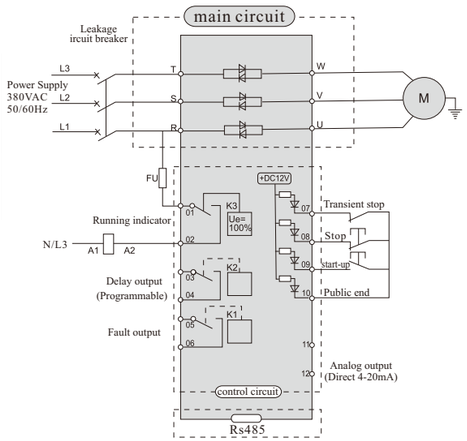
Inverter Type	Maximum DC input current(A)	Rated output current (A)	Adaptive water pump (KW)
CT110-01-0R7G-4	4.2	2.5	0.75
CT110-01-1R5G-4	6.1	3.7	1.5
CT110-01-2R2G-4	7.1	5	2.2
CT110-01-004G-4	16.5	9.5	4
CT110-01-5R5G-4	23.9	14	5.5
CT110-01-7R5G-4	30.6	18.5	7.5
CT110-01-011G-4	39.2	25	11
CT110-01-015G-4	49	32	15
CT110-01-018G-4	60	38	18.5
CT110-01-022G-4	72	45	22

Inverter parameter

Use environment	Less than 1000m.When the altitude more than 1000m, please use the 100m reduction ratio of 1%.		
Standards compliant	CE	Rated output voltage	3P380V
Maximum input DC voltage	800VDC	Output frequency range	0-60Hz
Recommended MPP voltage range	537-750VDC	Maximum efficiency of the whole machine	97%
Recommended input operating voltage	680VDC	Operating environment temperature range	G type water pump
MPPT efficiency	99.9%	Cooling mode	Air cooling
Input two direct current	2PDC	Protection grade	**Ip20**

Environmental Science

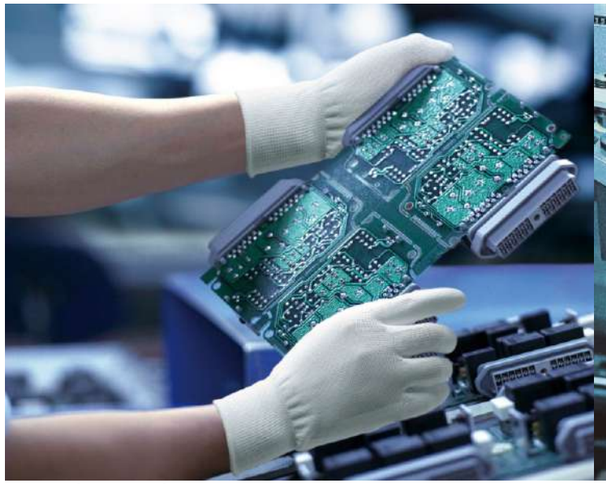
Standard	Comply with national standards:(GB14048.6-98)
Three phase power supply voltage	380V±5%
Frequency	50Hz
Applicable motor	Three phase asynchronous motor
Protection grade	Ip40 (Negotiable)
Servo system composition	151g11ms

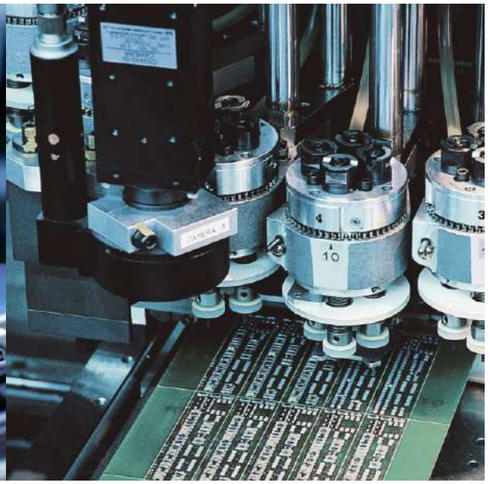


Installation size

Specifications	Outline dimension(mm)			Installation size (mm)			Weight (KG)
	W1	H1	D	W2	H2	d	
5.5-45 and below	148	200	310	85	280	M6	<5
55 kW-90kW	210	260	365	150	330	M8	<20
115 kW-220kW	380	240	500	320	440	M10	<25
250 kW-315kW	430	260	600	365	515	M12	<35

Specifications	Outline dimension(mm)		
	A	B	C
5.5-75kW	420	1000	380
90kW	450	1100	450
115kW-220kW	600	1270	450
220kW-400kW	700	1520	500
500kW-800kW	700	1800	500





Encoder card

I/O extension card: KOC600 – IO

KOC600-IO

1P analog input, optional voltage - 10-10 V/0 - 20m A
1 P analog differential input, optional voltage / current - 10 - 10V/0 - 20m A
5 P programmable bipolar line optional digital input, voltage 0 - 30VDC
1 P programmable relay output
Capacitance 250VAC/3A or 30VDC/1A
1 P 24V external supply power supply, max output 200Ma
1 P 485
1 P road bus

Rotary transformer encoder card: OC600 - PG1

KOC600-PG1-RES-FO

Support feedback input signal SIN+/-, COC+/-
Support the excitation output signal EXC+/-
Support pulse frequency division output

Suitable for synchronous motor

Energy saving extension card for injection molding machine: KOC600 – PIO

KOC600-PIO

2P isolated analog inputs, selectable voltage/current 0 - 24 V/ 0 - 1 A

Frequency divider output OC encoder card: KOC600-PG2

KOC600-PG2-OC

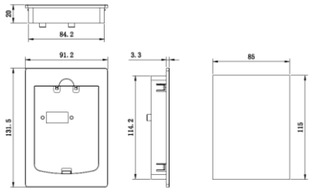
Support differential, OC, push-pull input and ABZ signal

Operation panel and installation component

Can set, view the function parameters and check the fault code function zoning, ergonomics design.
Standard RJ45 port, easy to use, strong versatility, one button to start. Support hot plug
Optional external installation base and extension cable for remote door installation.

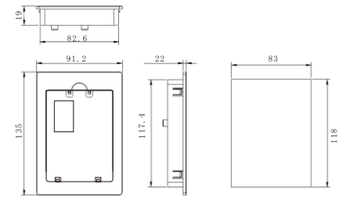
K600 - LED- L

KOC600 Outer Mounting Base



K100 - LED- L

KOC100 Outer Mounting Base



5-bit high-brightness LED digital display
7 indicator lights
One high precision potentiometer analog input
8 keys
PVC anti-reflective lens

Reactor

AC input reactor
It is used to increase the power factor, reduce the higher harmonics on the input side, and reduce the unbalanced three-phase input.

AC output reactor
When the motor cable exceeds 100m, an AC output reactor is required to reduce the leakage current generated by the DV/DT on the motor cable and protect the motor.

DC reactor
It is used to increase power factor, reduce input higher harmonics, and reduce external conduction and radiation interference.

Adaptive frequency converter power (KW)	AC input reactor	AC output reactor	DC reactor
2.2KW	KOC-IACL-S2.2K	KOC-OACL-S2.2K	KOC-DCL-S2.2K
3.7KW	KOC-IACL-S3.7K	KOC-OACL-S3.7K	KOC-DCL-S3.7K
5.5KW	KOC-IACL-S5.5K	KOC-OACL-S5.5K	KOC-DCL-S5.5K
7.5KW	KOC-IACL-S7.5K	KOC-OACL-S7.5K	KOC-DCL-S7.5K
11KW	KOC-IACL-S011K	KOC-OACL-S11K	KOC-DCL-S11K
15KW	KOC-IACL-S015K	KOC-OACL-S15K	KOC-DCL-S15K
18.5KW	KOC-IACL-S018K	KOC-OACL-S18.5K	KOC-DCL-S18.5K
22KW	KOC-IACL-S022K	KOC-OACL-S022K	KOC-DCL-S022K
30KW	KOC-IACL-S030K	KOC-OACL-S030K	KOC-DCL-S030K
37KW	KOC-IACL-S037K	KOC-OACL-S037K	KOC-DCL-S037K
45KW	KOC-IACL-S045K	KOC-OACL-S045K	KOC-DCL-S045K
55KW	KOC-IACL-S055K	KOC-OACL-S055K	KOC-DCL-S055K
75KW	KOC-IACL-S075K	KOC-OACL-S075K	KOC-DCL-S075K
90KW	KOC-IACL-S090K	KOC-OACL-S090K	KOC-DCL-S090K
110KW	KOC-IACL-S110K	KOC-OACL-S110K	KOC-DCL-S110K
132KW	KOC-IACL-S132K	KOC-OACL-S132K	KOC-DCL-S132K
160KW	KOC-IACL-S160K	KOC-OACL-S160K	KOC-DCL-S160K
200KW	KOC-IACL-S200K	KOC-OACL-S200K	KOC-DCL-S200K
220KW	KOC-IACL-S220K	KOC-OACL-S220K	KOC-DCL-S220K
250KW	KOC-IACL-S250K	KOC-OACL-S250K	KOC-DCL-S250K
280KW	KOC-IACL-S280K	KOC-OACL-S280K	KOC-DCL-S280K
315KW	KOC-IACL-S315K	KOC-OACL-S315K	Built-in standard
355KW	KOC-IACL-S355K	KOC-OACL-S355K	Built-in standard
400KW	KOC-IACL-S400K	KOC-OACL-S400K	Built-in standard