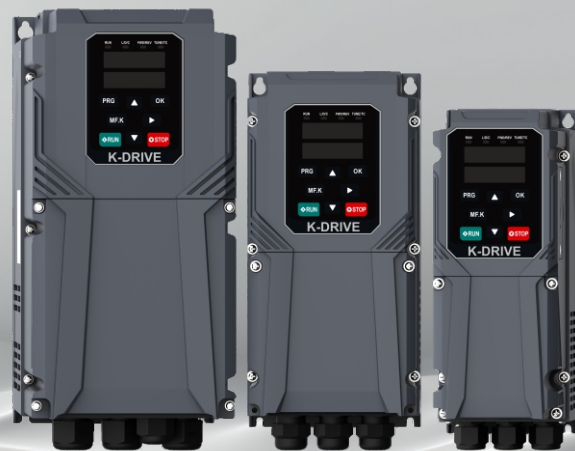




KD700 IP65

High protection series

KD700 IP65 series is a high protection performance products, based on the KD700 platform development, efficient, intelligent, easy to use, economy, quality, service as a whole. Realize synchronous, asynchronous motor integration drive, integration of various control, communication, expansion and many other functions. Safe and reliable, excellent control!



NAMING CONVENTION

KD700 IP65 S - 4 T 4.0 G B

① ② ③ ④ ⑤ ⑥ ⑦

No.	Content	Instructions
1	Product series	Kd700 IP65 High protection series
2	Adaptive motor type	Empty: None S: Synchronous motor
3	Voltage level	3:220V 4:380V 7:690V
4	Voltage classification	S: single-phase T: three-phase
5	Adaptive motor power	0.75kw to 1200kw R indicates the decimal point
6	Applicable model	G: general purpose P: fan pump type
7	Built-in brake unit	B: Built-in brake unit (B) : Optional Built-in brake unit Empty: None

FUNCTION INTRODUCTION

- Flame retardant ABS thermoplastic polymer material, rice gold baking paint spray process, safer, more corrosion resistant;
- Built-in 105°C-10000h high quality capacitor, more durable;
- Independent air cooling design, longer life;
- 0.1s output 200% curve current protection, more vigorous;
- Equipped with PID, PLC function, more intelligent;
- A variety of phase, voltage, current, motor, drive protection, more comprehensive;
- Motor control mode optional, SVC speed sensorless vector control, more accurate;
- Thousands of groups of parameter Settings, more powerful;
- Wide voltage design -15% to +20%, more suitable.

SPECIFICATION AND MODEL

Models	Adaptive motor (KW)	Rated capacity (KVA)	Rated input current (A)	Rated output current(A)
Single-phase 220V range: -15%~20%				
KD700IP65-2S-0.4GB	0.4	1	5.4	2.1
KD700IP65-2S-0.75GB	0.75	1.5	8.2	4
KD700IP65-2S-1.5GB	1.5	2.8	14	7
KD700IP65-2S-2.2GB	2.2	3.8	23	9.6
KD700IP65-2S-4.0GB	4.0	5.9	40	17
KD700IP65-2S-5.5GB	5.5	8.5	60	25
KD700IP65-2S-7.5GB	7.5	10.5	75	32
Three-phase 220V range: -15%~20%				
KD700IP65-2T-0.4GB	0.4	1	2.7	2.1
KD700IP65-2T-0.75GB	0.75	1.5	4.2	3.8
KD700IP65-2T-1.5GB	1.5	2.8	7.7	7
KD700IP65-2T-2.2GB	2.2	3.8	12	9
KD700IP65-2T-4.0GB	4.0	5.9	19	17
KD700IP65-2T-5.5GB	5.5	8.5	28	25
KD700IP65-2T-7.5GB	7.5	10.5	35	32
KD700IP65-2T-11GB	11	14.5	47	45
KD700IP65-2T-15GB	15	19.5	65	60
KD700IP65-2T-18GB	18.5	24	80	75
KD700IP65-2T-22G(B)	22	28.5	97	90
KD700IP65-2T-30G(B)	30	39	115	110
KD700IP65-2T-37G(B)	37	48	166	152
KD700IP65-2T-45G(B)	45	58.5	190	176
KD700IP65-2T-55G(B)	55	71.5	214	210
KD700IP65-2T-75G	75	97.5	307	304
KD700IP65-2T-93G	93	121	389	377
KD700IP65-2T-110G	110	143	435	426
KD700IP65-2T-132G	132	171.5	468	465
KD700IP65-2T-160G	160	208	590	585
KD700IP65-2T-200G	200	260	785	725

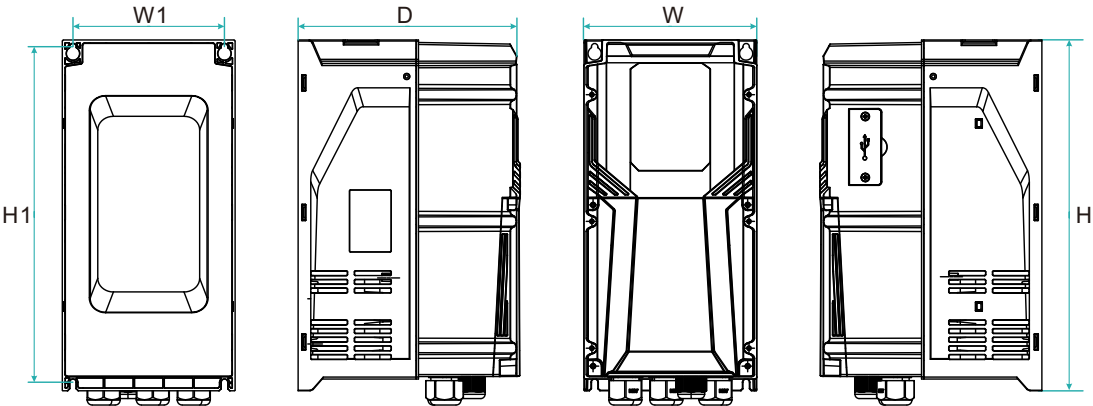
SPECIFICATION AND MODEL

Models	Adaptive motor (KW)	Rated capacity (KVA)	Rated input current (A)	Rated output current(A)
Three-phase 380V range: -15%~20%				
KD700IP65-4T-0.75GB	0.75/1.5	1.5/2.5	3.4/5	2.1/3.8
KD700IP65-4T-1.5GB	1.5/2.2	2.5/3.4	5/5.8	3.8/5.1
KD700IP65-4T-2.2GB	2.2/4	3.4/5.9	5.8/10.5	5.1/9
KD700IP65-4T-4.0GB	4/5.5	5.9/8.5	10.5/14.6	9/13
KD700IP65-4T-5.5GB	5.5/7.5	8.5/11	14.6/20.5	13/17
KD700IP65-4T-7.5GB	7.5/11	11/13.5	20.5/26	17/25
KD700IP65-4T-11GB	11/15	13.5/16	26/35	25/32
KD700IP65-4T-15GB	15/18.5	16/21	35/38.5	32/37
KD700IP65-4T-18GB	18.5/22	21/24	38.5/46.5	37/45
KD700IP65-4T-22GB	22/30	24/30	46.5/62	45/60
KD700IP65-4T-30GB	30/37	30/39	62/76	60/75
KD700IP65-4T-37GB	37/45	39/49	76/92	75/90
KD700IP65-4T-45G(B)	45/55	49/59	92/113	90/110
KD700IP65-4T-55G(B)	55/75	59/72	113/157	110/152
KD700IP65-4T-75G(B)	75/93	72/100	157/180	152/176
KD700IP65-4T-93G(B)	93/110	100/116	180/214	176/210
KD700IP65-4T-110G(B)	110/132	116/138	214/256	210/253
KD700IP65-4T-132G(B)	132/160	138/167	256/307	253/304
KD700IP65-4T-160G	160/185	167/200	307/345	304/340
KD700IP65-4T-185G	185/200	200/225	345/385	340/377
KD700IP65-4T-200G	200/220	225/280	385/430	377/426
KD700IP65-4T-220G	220/250	280/309	430/468	426/465
KD700IP65-4T-250G	250/280	309/349	468/525	465/520
KD700IP65-4T-280G	280/315	349/398	525/590	520/585
KD700IP65-4T-315G	315/350	398/434	590/665	585/650
KD700IP65-4T-355G	355/400	434/494	665/785	650/725
KD700IP65-4T-400G	400/450	494/560	785/883	725/820

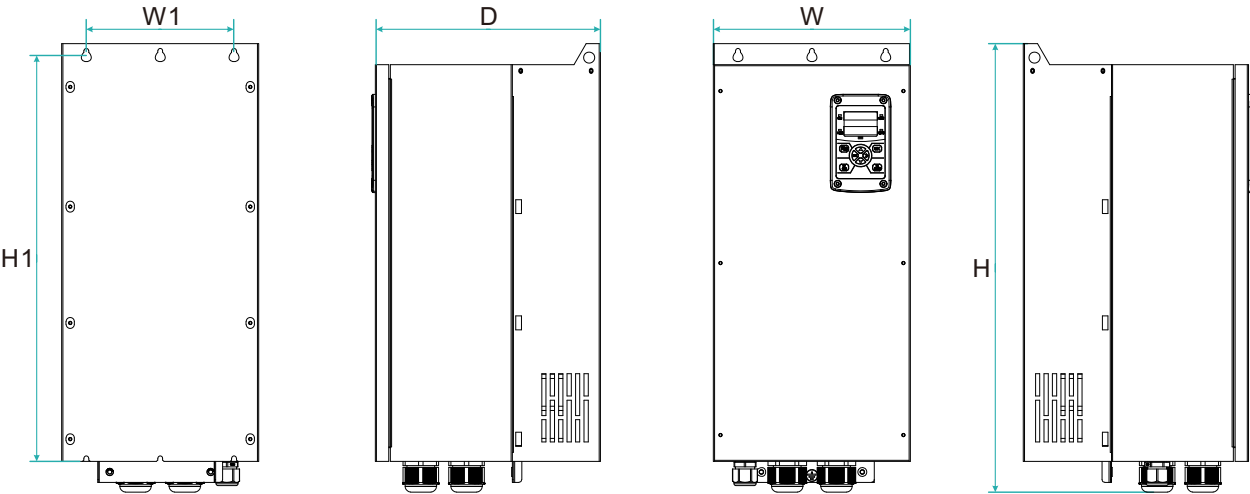


MODEL AND SIZE

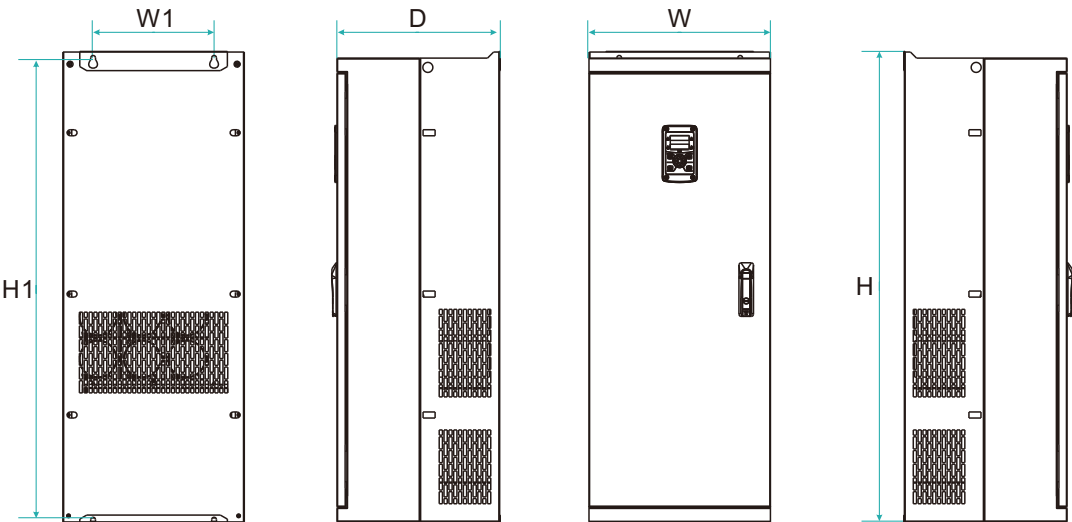
A



B



C



2S



2T

4T

AC Drive Model	Adapter motor (KW)	Installation size(mm)		Dimensions(mm)			Aperture	Frame NO.	
		W1	H1	W	H	D	d		
Input voltage: three-phase 380V				Range: -15%~20%					
KD700IP65-4T-0.7GB	0.7	93	263	110	272	150	5		
KD700IP65-4T-1.5GB	1.5								
KD700IP65-4T-2.2GB	2.2								
KD700IP65-4T-4.0GB	4.0								
KD700IP65-4T-5.5GB	5.5	128	289	146	300	166	6		
KD700IP65-4T-7.5GB	7.5								
KD700IP65-4T-11GB	11	149	330	170	345	215	6		
KD700IP65-4T-15GB	15								
KD700IP65-4T-18.5GB	18.5	210	420	255	465	240	7		
KD700IP65-4T-22GB	22								
KD700IP65-4T-30GB	30	210	478	270	490	250	7		
KD700IP65-4T-37GB	37								
KD700IP65-4T-45G(B)	45	210	587	280	600	320	7		
KD700IP65-4T-55G(B)	55	160	655	285	675	330	• 10		
KD700IP65-4T-75G(B)	75								
KD700IP65-4T-93G(B)	90	200	785	315	805	340	10		
KD700IP65-4T-110G(B)	110								
KD700IP65-4T-132G(B)	132	250	1085	390	1105	375	12		
KD700IP65-4T-160G	160								
KD700IP65-4T-185G	185	300	1145	450	1165	505	12		
KD700IP65-4T-200G	200								
KD700IP65-4T-220G	220								
KD700IP65-4T-250G	250	400	1345	515	1365	415	12		
KD700IP65-4T-280G	280								
KD700IP65-4T-315G	315	590	1380	685	1400	430	12		
KD700IP65-4T-355G	350								
KD700IP65-4T-400G	400								

SPECIFICATIONS

Input & Output

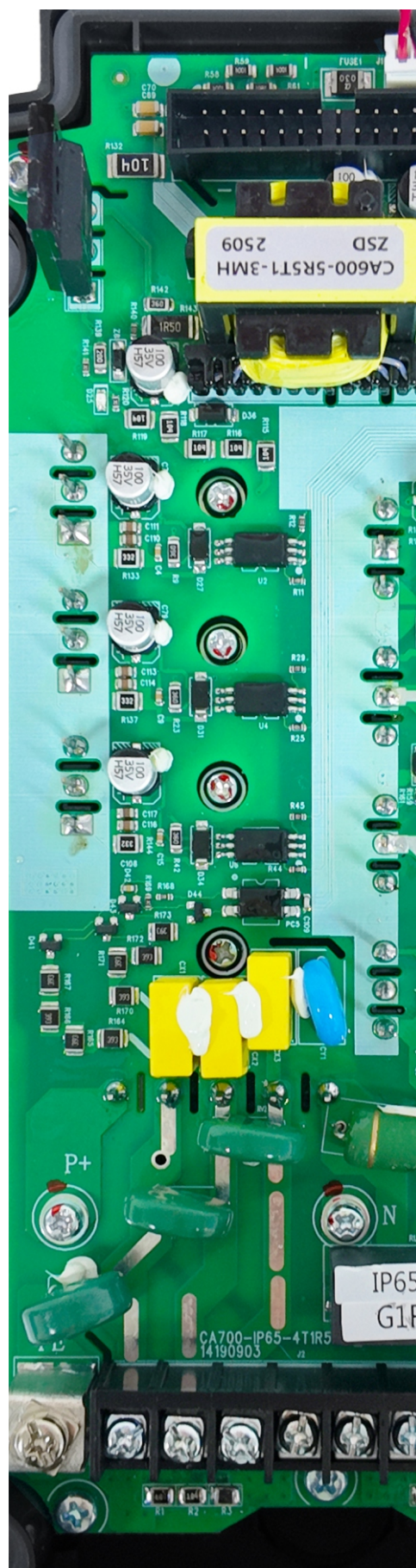
Input voltage	3AC 380~460V($\pm 15\%$)
Input frequency	50Hz/60Hz $\pm 5\%$
Output voltage	0~input voltage, deviation $< \pm 3\%$
Output frequency	0~600Hz

Control Characteristics

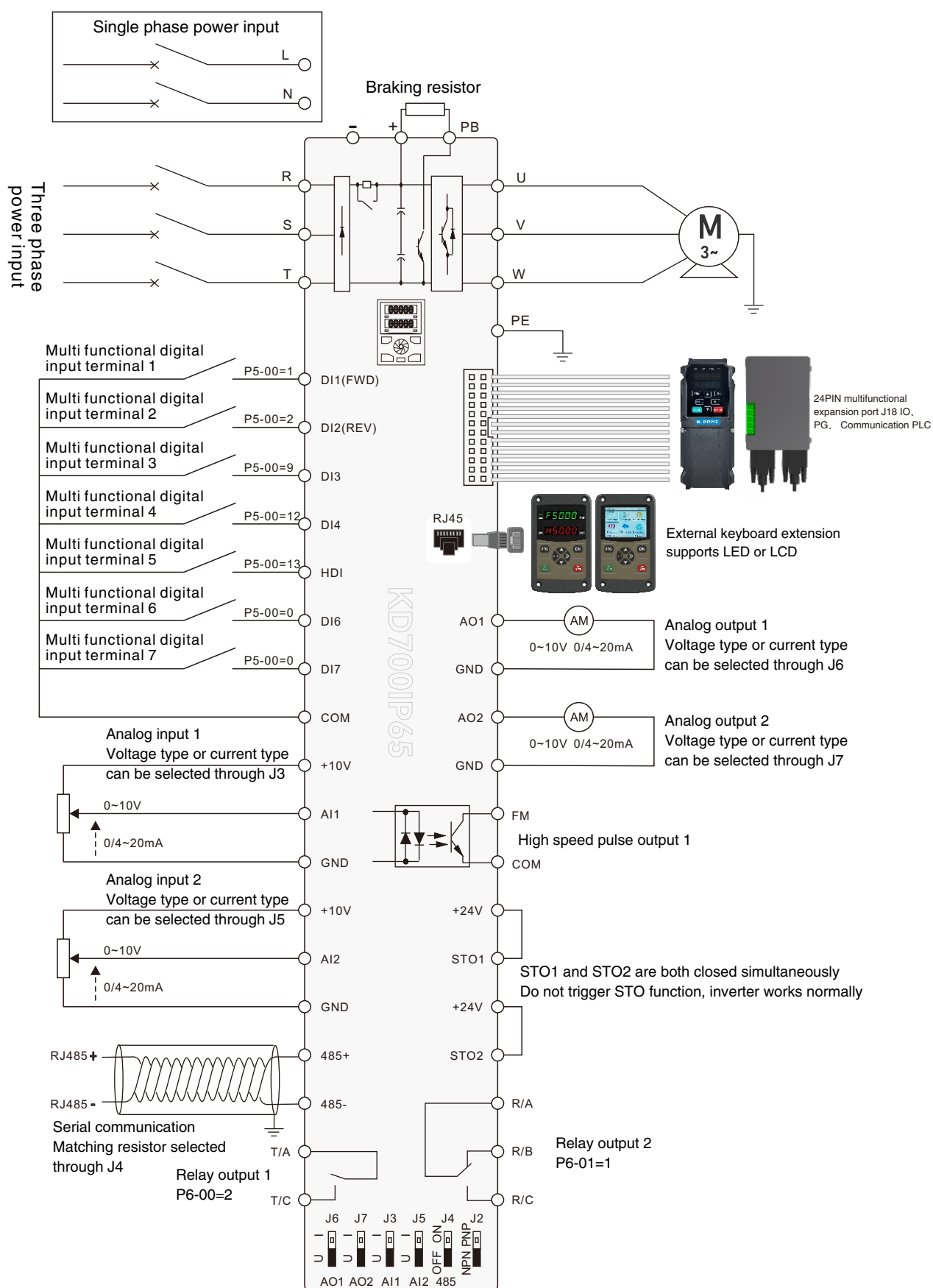
Control mode	V/F control Sensor-less vector control Torque control
Speed accuracy	$\pm 0,5\%$ (V/F) $\pm 0,2\%$ (SVC)
Speed fluctuation	$\pm 0,3\%$ (SVC)
torque response	$< 10\text{ms}$ (SVC)
Starting torque	0,5Hz: 150% (V/F) 0,25Hz: 180% (SVC)
Overload capability	150% Rated current -60s 180% Rated current -10s 200% Rated current -1s
Simple PLC Multi-step speed	16 speed External digital signal control Internal clock
PID function	Standard build-in
Communication	Modbus

Featured functions

Featured functions	Input & Output delay Flexible parameters display AVR (Automatic Voltage Regulation) Timing control, fixed length control, etc. Simple PLC, 16-steps speed control Torque control build-in S curve acceleration/deceleration Multi-functional programmable keypad V/F separated control
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BASIC CONNECTION



DISPLAY AND KEYBOARD OPERATION

Item	Content description
Phase loss protection	Input phase loss protection, output phase loss protection
Instantaneous overcurrent protection	Stop when the rated output current is more than 250%
Overvoltage protection	Stop when the main circuit DC voltage is above 820V (for three-phase 380V models) Stop when the main circuit DC voltage is above 410V (for three-phase 220V and single-phase 220V models)
Undervoltage protection	Stop when the main circuit DC voltage is below 350V (for three-phase 380V models) Stop when the main circuit DC voltage is below 190V (for three-phase 220V and single-phase 220V models)
Overheat protection	The inverter bridge will trigger protection when it overheats
Overload protection	Heavy duty application: 150% rated current 60s stop; Light load application: 110% rated current 60s stop
Overcurrent protection	Stop protection over 2.5 times rated current of inverter
Brake protection	Brake unit overload protection, brake resistance short-circuit protection
Short circuit protection	Output interphase short-circuit protection, output short-circuit protection to the ground
Motor protection	Motor lock protection, car protection, overload protection, overheat protection (analog input AI2 can support 4 kinds of motor temperature sensor input PT100, Pt1000)

PERSONALIZED FUNCTION

Item	Content description
The motor is overheated	Can support motor temperature sensor input (PT100.PT1000)
Run instruction	Operation panel setting, control terminal setting, serial communication port setting (can be switched in a variety of ways)
Frequency instruction	10 frequency instructions: digital set, analog voltage set, analog current set, pulse set, serial port set (can be switched in a variety of ways)
Auxiliary frequency instruction	10 auxiliary frequency instructions. It can flexibly realize auxiliary frequency fine-tuning and frequency synthesis
Input terminal	Standard: 5 DI terminals Two AI terminals, AI1 supports -10V-10V voltage mode input, AI2 supports -10V-10V voltage mode input, 0~20mA current mode input, temperature mode input (switch function via dip switch) Expansion capacity: 4 DI terminals
Output terminal	Standard: 1 DO terminal 1 relay output terminal 1 FM (optional for high speed pulse output or normal DO function) One AO terminal supports 0~20mA current output or 0~10V voltage output Expansion capability: 1 DO terminal 1 relay output terminal

BASIC FUNCTION

Item	Content description
Input frequency resolution	Digital setting: 0.01Hz Analog setting: Max frequency x 0.025%
Type of motor that can drive	Induction motor (IM), Permanent Magnet Synchronous Motor (PMSM)
Control mode	Open loop vector control (SVC), Closed loop vector control (FVC), V/f control
Starting torque	0.5Hz/150% (SVC), 0Hz/180% (FVC)
Speed range	1:200 (SVC) 1:1000 (FVC)
Speed stability accuracy	0.3% (SVC) 0.01% (FVC)
Torque control accuracy	FVC:±3% SVC: ±5% above 5Hz
Torque boost	Automatic torque boost; Manual torque is increased by 0.1%~30.0%
V/F curve	Four methods: linear, multi-point, full V/f separation, incomplete V/f separation
Acceleration and deceleration curve	Linear or S-curve acceleration and deceleration mode can be selected, which can reduce the impact of frequency sudden change on the machine through arc smoothing. Four groups of acceleration and deceleration time can be set, and the acceleration and deceleration time range is 0.0-6500.0s
DC braking	Dc braking Starting frequency: 0.00Hz~ Maximum frequency Braking time :0.0s~100.0s Braking current value: 0.0%~ 100.0%
Point control	Starting frequency range :0.00Hz~50.00Hz Starting acceleration and deceleration time :0.0s~6500.0s
Simple PLC, multi-speed operation	Up to 16 segment speeds are possible with built-in PLC or control terminals
Built-in PID	It is convenient to realize the closed-loop control system of process control
Automatic Voltage Regulation (AVR)	When the grid voltage changes, it can automatically keep the output voltage constant
Over voltage over loss rate control	Automatic current and voltage limit during operation to prevent frequent overvoltage trip
Fast current limiting function	Minimize the overcurrent fault and protect the normal operation of the inverter
Torque qualification and control	The "shovel" feature automatically limits torque during operation to prevent frequent overcurrent tripping; Torque control can be achieved by vector control mode

USE ENVIRONMENT

Item	Content description
Place of use	The protection level of the whole machine is IP65, heavy and light load models G/P integration, focusing on the application of high performance, functional requirements and high protection level
Altitude	Derating is not required for use below 1000m. Derating is 1% for every increase of 100m above 1000 M. The maximum altitude is 3000m.
Ambient temperature	If the ambient temperature ranges from -10°C to +50°C and the ambient temperature ranges from 40 °C to 5°C, the derating function must be derated by 1.5% for every 1°C increase in the ambient temperature
IP level	IP65
Vibration	Less than 5.9m/s ² (0.6g)
Storage temperature	-20°C~+60°C

Performance characteristics

CONTROL MODE SELECTION

Control mode	Speed control	Torque control	Position control	Applicable machine
VF	●			Asynchronous motor
Voltage-frequency separation	●			Torque motor, EPS power supply, seriesresonance
No PG high-performance vector	●	●		Asynchronous and permanent magnet synchronous
There are PG high-performance vectors	●	●	●	Asynchronous and permanent magnet synchronous

EXCELLENT PERFORMANCE

Control mode	Speed control	Torque control	Applicable machine
No PG high-performance vector	1:200	150%	Permanent magnet synchronous motor
No PG high-performance vector	1:100	150%	Asynchronous motor
There are PG high-performance vectors	1:1000	150%	Asynchronous, permanent magnet synchronous motor

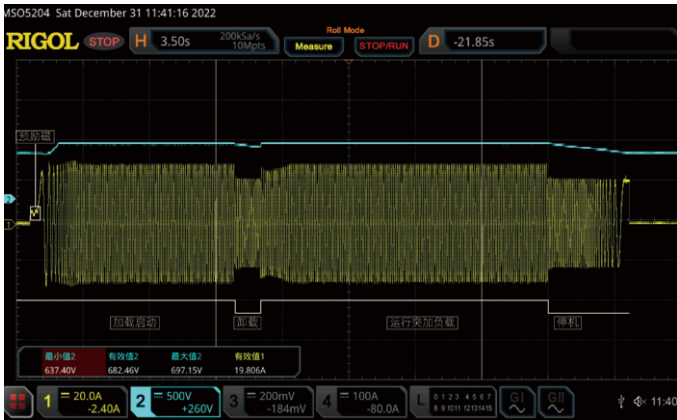
RIGOROUS DESIGN ABILITY

01

High starting torque characteristics

Low frequency torque is high. In closed-loop vector mode, it can output 200% rated torque at 0.0Hz and run stably with load at ultra-low speed of 0.01Hz. Powerful low torque output can effectively ensure the stability and smooth start.

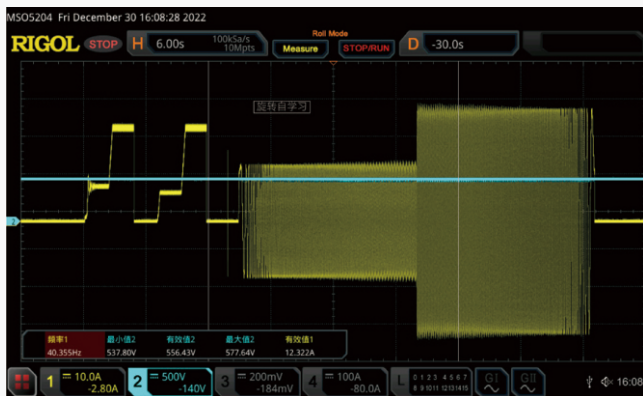
In torque control mode, the torque output is stable. The linearity deviation is less than 3%, which greatly ensures the stable operation of the equipment.



02

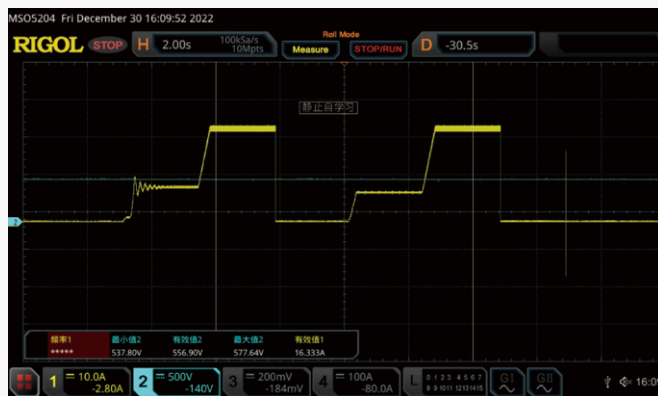
Self-learning of motor parameters

No matter in the rotation or static motor self-learning, the motor parameters can be accurately obtained, convenient debugging, simple operation, providing higher control accuracy and response speed.



Rotary self-learning:

the load learning must be removed, and it is suitable for occasions where the control accuracy is relatively high.



Static self-learning:

powerful motor self-learning algorithm, which can obtain motor parameters in the static state of the motor, the effect is comparable to rotary self-learning.

03

Overexcitation braking function

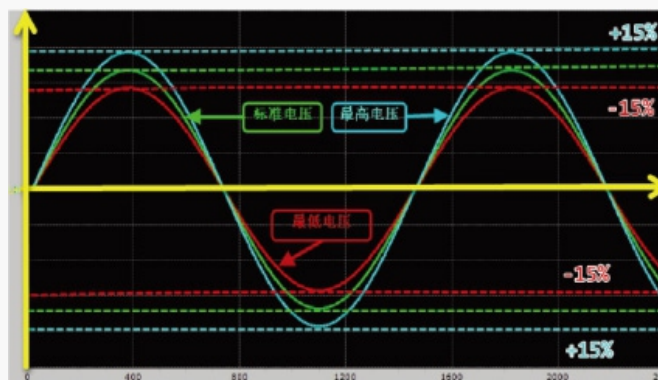
In the case of partial inertia shutdown, the braking resistance can be not increased, and the over-excited braking function can realize rapid braking, improving the product usability. Overexcitation braking function effectively inhibits the bus voltage rise in the deceleration process, avoids the inverter overvoltage fault, and realizes fast braking to meet the power outage and quick stop.



04

Wide voltage design

The allowable fluctuation range of the input voltage is 15% of the standard rated voltage taxi, so that the time can be protected from the impact of voltage fluctuations to meet the harsh grid environment.

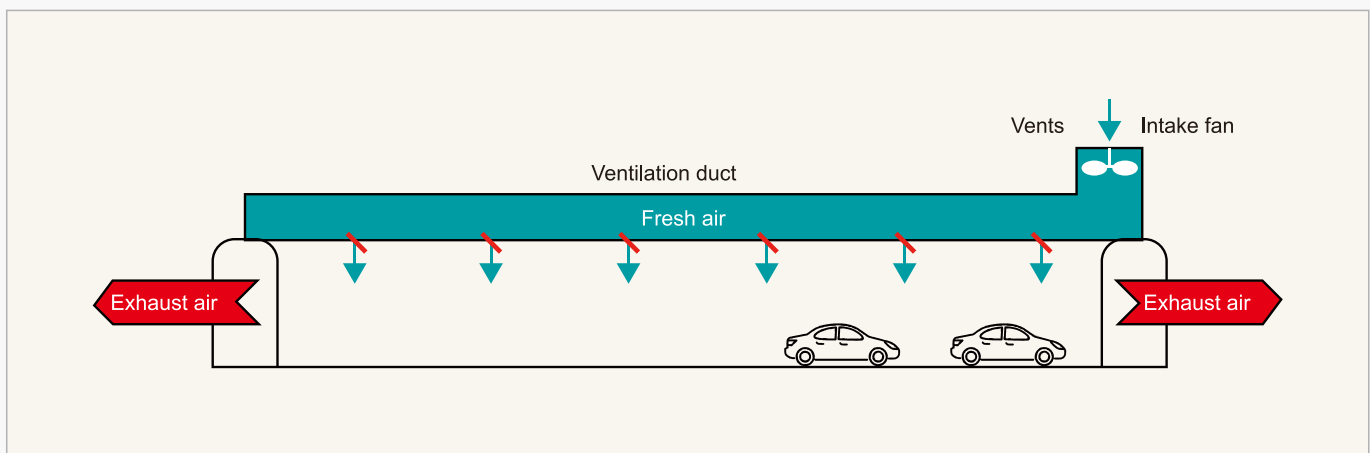


FIRE MODE IN URGENT SITUATIONS

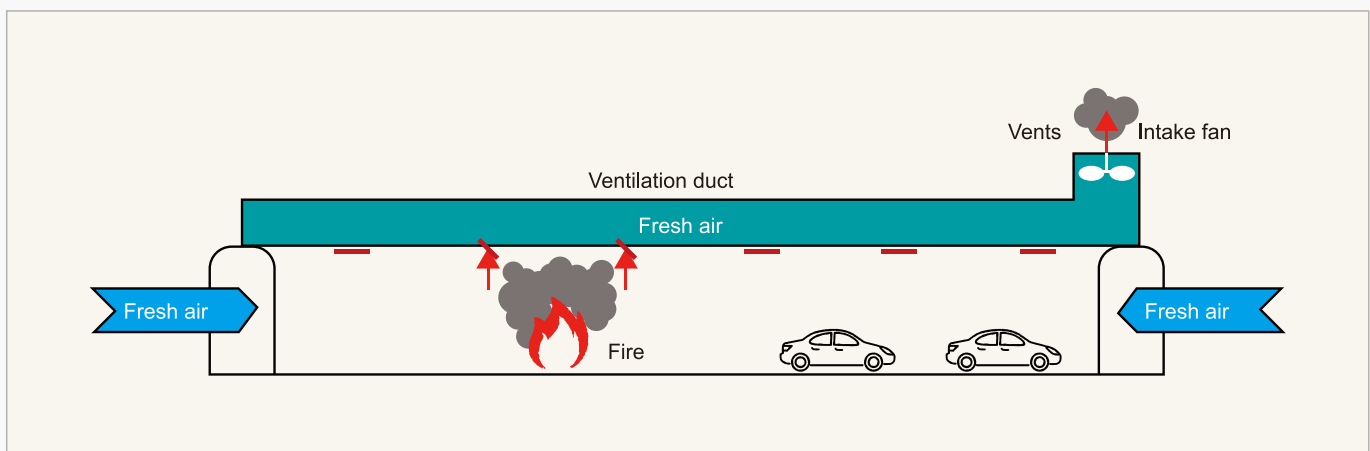
This safety feature prevents the VFD from shutting down for self-protection. Instead, the drive will continue the vital fan operation even with a control signal, warning or alarm. Fire mode are critical to ensuring safer evacuation of people from buildings in the event of a fire.

Activating the "Fire Mode" function in K-DRIVE drives ensures safe and continuous operation in applications such as parking lot exhaust fans, smoke extraction and essential service functions.

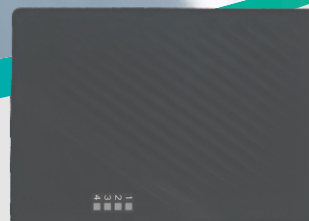
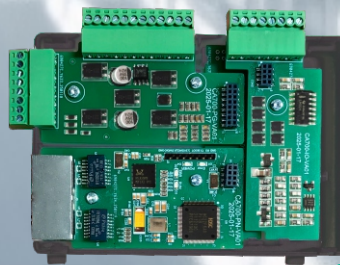
Semi-transverse ventilation system in normal mode



Semi-transverse ventilation system in case of fire



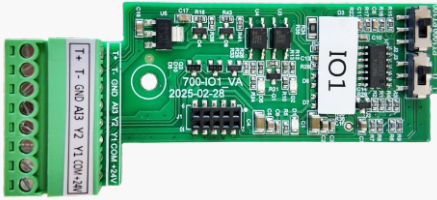
All Our Series Support Fire Mode, Including KD600M & KD600 & IP65 etc.



700 Junction Box

KD700 Optional cards

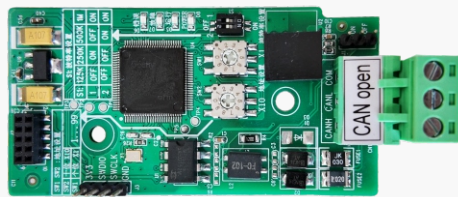
In order to solve the problem that the KD700 series can only connect one expansion card at a time, we have developed this junction box specifically for the 600 series inverter. The 600 series inverter can connect I/O expansion cards, communication expansion cards (EtherCAT, Profibus, Profinet) and PG cards (except PLC modules) at one time. Customers can choose external expansion modules by themselves, which can provide more flexible deployment solutions.



KD700-IO1

I/O expansion card 1

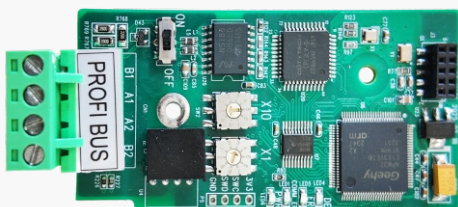
- 5 digital inputs;
- 1 relay output;
- 1 analog AO2 output;
- 1 digital Y2 output, 1 temperature detection (PT100/PT1000/ PTC/KTY).



KD700-CANOPEN

CANOPEN communication card

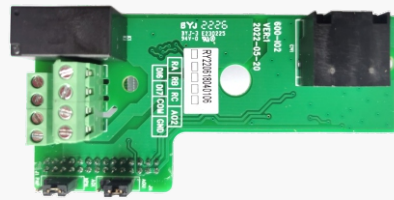
- CANOPEN communication adapter card.



KD700-PROFI BUS

Profibus-DP communication card

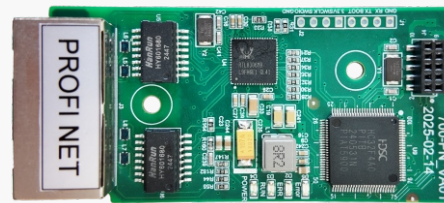
- The Profibus-DP fieldbus adapter card complies with the internationally accepted Profibus fieldbus standard, which can improve the communication efficiency of the inverter and realize the networking function, making the inverter a slave station of the fieldbus and accepting the control of the fieldbus master station. This DP expansion card can realize Profibus-DP communication.



KD700-IO2

I/O expansion card 2

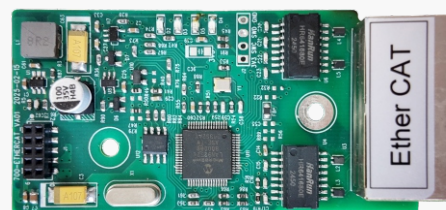
- 2 digital inputs;
- 1 relay output;
- 1 analog AO2 output.



KD700-PROFI NET

ProfiNET communication card

- It complies with the internationally accepted Profinet Ethernet standard. The card is installed on the inverter to improve communication efficiency, facilitate the inverter networking function, and make the inverter a slave station of the fieldbus and accept the control of the fieldbus master station.



KD700-ETHERCAT

Ether CAT communication card

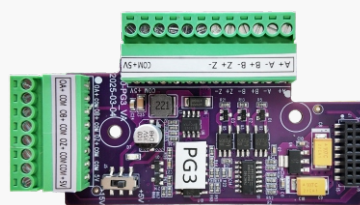
- Ether CAT fieldbus adapter card can be used for ultra-high-speed I/O networks. This protocol is applicable to the I/O layer.



KD700-PG1

ABZ Open integrated electrode PG1 Card

- Open collector PG card (PG card 1 can only be applied to asynchronous motor; compatible with complementary output, encoder card output DC power supply optional +12V or +5V (jumper selection); suitable for asynchronous motor closed loop vector control (VC).



KD700-PG3

ABZ Difference PG3 Card

- ABZ differential signal input PG card: 1:1 differential frequency division output;
- Suitable for asynchronous electric motor closed loop vector control (VC).



KD700-PG5

Sin/Cos PG5 Card

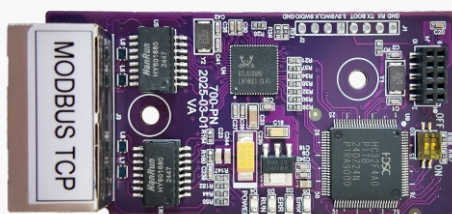
- Supports sine and cosine signal input; supports differential frequency division output; suitable for synchronous electric motor closed-loop vector control (VC).



KD700-PG6

Rotary PG6 Card

- Applicable to rotary transformer, DB9 interface, optional shielded encoder cable. Applicable to synchronous traction machine closed loop vector control (VC).



KD700-MODBUS TCP

Modbus TCP Card

- Through the Modbus TCP protocol, the inverter can exchange data with other devices that support Modbus TCP, enabling remote monitoring and control.



K-DRIVE Monitoring

Host software for PC

- This software communication tool can run on personal computers for drive operation, parameter value setting, waveform monitoring, fault alarm, etc;
- Supports all series.

