

PROVEN PERFORMANCE

Customers in over 50 countries and in diverse markets and sectors.



Kinco

Programmable
Logic
Controller

 Kinco PLC Catalog

- K2 PLC
- KS PLC
- KW PLC
- MK PLC with Built-in HMI
- K5 PLC
- K6 PLC



Kinco® Automation
www.kinco.cn Email: sales@kinco.cn

(All trademarks and logos in this brochure are property of and registered by their respective owners.)

K1E04-2207

K2 Series

02	Overview of Kinco K2 PLC
03	Parameter of Kinco K2 PLC
04	Dimension of Kinco K2 PLC
05	Model Description & Wiring Diagram

KS Series

10	Overview of Kinco KS PLC
11	Parameter of Kinco KS PLC
12	KS PLC Model Description & Wiring Diagram

KW Series

17	Overview of Kinco KW PLC
18	Dimension of Kinco KW PLC
19	KW Series Dimension & Wiring Diagram

MK Series

20	MK PLC with built-in HMI
21	Parameter of Kinco MK
22	MK Dimension & Wiring Diagram

K5 Series

24	Overview of Kinco-K5 PLC
26	Product List of Kinco-K5 PLC
28	CPU Module Specification
29	CPU Model Description & Wiring Diagram
36	Model Description of Expansion I/O Module & Wiring Diagram
43	Description of Expansion Function Module & Wiring Diagram
44	Installation

K6 Series

45	Overview of Kinco K6 PLC
47	Dimension of Kinco K6 PLC
49	K6 Series Dimension & Wiring Diagram

Programming Software: Kinco Builder

Product Features:

K2 series PLC is cost-effective product (without expansion).
K2 is based on K5, but K2 has better performance and lower cost, K2 is product with high cost-performance rate.

Main Features:

- Micro USB for programming and power supply.
- DIO technic for more applications.
- 4 high speed counters,3 high speed output.
- 2*RS485, max. baudrate 115.2kbps.
- Real time clock.
- Small size to save space.



Transistor type of DIO (DI, DO multiplexing)

- Based on DIO technology, K2 PLC provides some DIO which can be used as digital input or digital output. It doesn't need to configure in software. It will adapt automatically according to the wirings.

USB programming

- K2 provides MicroUSB port for programming(USB2.0).
- The MicroUSB port can be also used as power supply for K2 PLC. It is compatible with common MicroUSB cables.

High speed counter

- K2 provides 4 high speed counters. Every high speed counter can support maximum 32 PV and support 32"CV=PV" interrupts.
- High speed counter support multiple modes: single phase, double phase (up/down), CW/CCW, AB phase(1multiple frequency and 4 multiple frequency).
- The maximum counting frequency of CPU205 is 50KHz.
- The maximum counting frequency of CPU204/209 is 200KHz.

High speed output

- K2 provides 3 high speed output(Q0.0,Q0.1 and Q0.4). It supports PTO and PWM.
- CPU205 maximum output frequency is 50KHz.CPU204/209 maximum output frequency is 200KHz.
- The software provides PLS(PWM or PTO), position controlling instructions, PRL0_F(following instructions).

Serial port communication

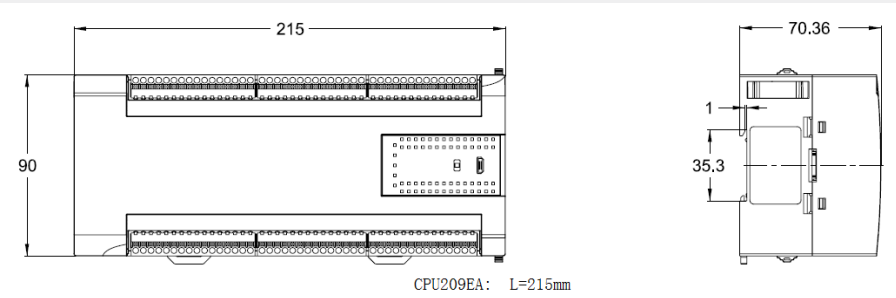
- K2 provides 2 RS485 communication ports, PORT1 and PORT2. It supports baudrate up to 115.2kbps.
- PORT1 can work as programming port, also supports Modbus RTU protocols(as a slave), free-protocol communication mode.
- PORT2 supports Modbus RTU (as a slave or master) and free-protocol communication mode.

Technical Specifications

CPU	CPU205				CPU204	CPU209		
Order no.	K205-16DR	K205-16DT	K205EX-22DT	K205EA-18DT	K204ET-16DT	K209EA-50DX	K209M-56DT	
Specification	Supply voltage	DV 24V						
	DI	6	6	8	8	8	22	32
	DO	6*Relay	6*Transistor	8*Transistor		6*Transistor	8*Transistor+ 12*Relay	24*Transistor
	DIO	4	4	6	none			
	AI	none	none	none	1	1	6	none
	AO	none	none	none	1	1	2	none
	High speed counter	Single phase, 2*Max 50Khz, 2*Max 20Khz; Two phase, 2*Max 50Khz, 2*Max 10Khz.				4 Single/ Double-Phase Max:200KHz	Single phase, 2*Max 200KHz 2*Max 20KHz Two phase, 2*Max 100KHz 2*Max 10KHz	2 Single/ Double-Phase Max:200KHz
	High speed output	none	2*Max 50KHz 1*Max 10KHz			3*Max 200KHz	2*Max 200KHz 1*Max 10KHz	3*Max 200KHz 1*Max10KHz
	Port	2*RS485 Max 115.2kbps				1*Ethernet 2*RS485 Max 115.2kbps	1*RS232 2*RS485 Max 115.2kbps	2*CAN 2*RS485 Max 115.2kbps
	Number of expansionmodules	no expansion						up to 14
Installation size(mm) (L×W×H)	90*97*70					215*90*70.36		

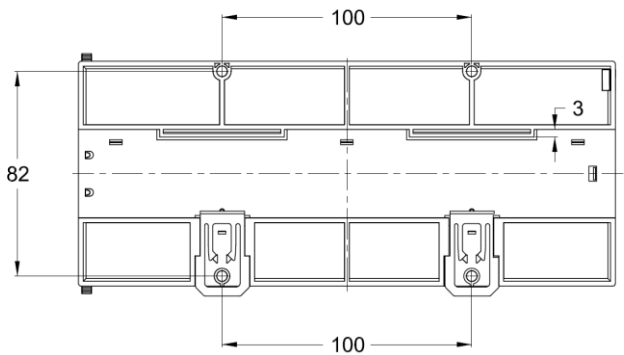
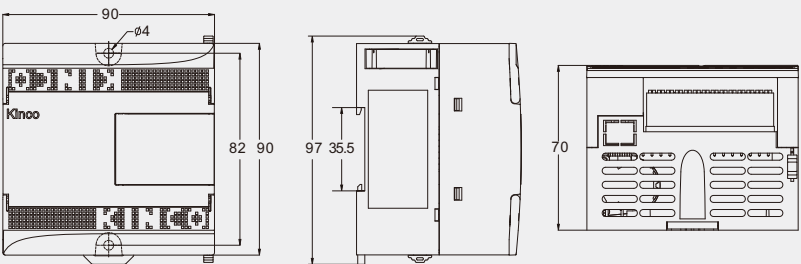


CPU209



Mechanical Dimensions (Unit : mm)

CPU205



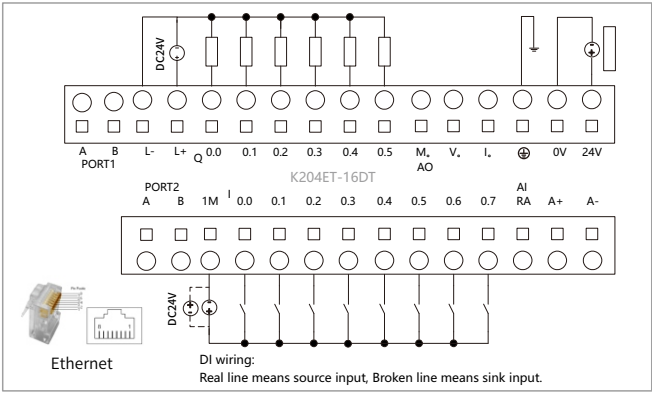
CPU204



K204ET-16DT

Power supply:	DC24V
Built-in I/O points:	16 I/O, DI 8*DC24V, DO 6*DC24V,transistor output,1*AI,1*AO
Communication ports:	1 Ethernet, Micro USB2.0, 2 RS485,
Connectable expansion modules:	No
Real-time clock:	Yes, deviation less than 5 min/month at 25°C
Installation size:	90×97×70mm(mm)(L×W×H)
Memory area:	User program memory--Max 4K steps;
	User data memory--M area 1KB, V area 4KB;
	Data backup characteristic--E2PROM,448 bytes;
	Data retention characteristic--V area 2K bytes (VB0-VB2047) .
	Lithium battery, 3 years at normal temperature

K204-16DT



CPU205



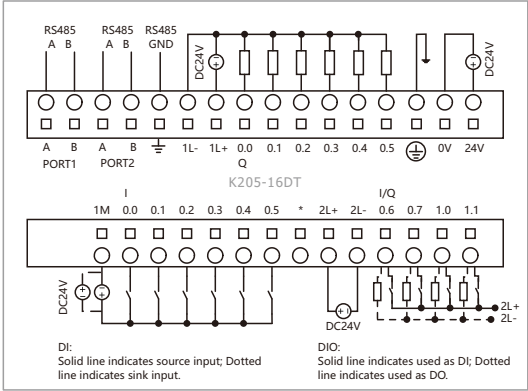
K205-16DT

Power supply:	DC24V
Built-in I/O points:	16 I/O, DI 6*DC24V, DIO 4*DC24V, DO 6*DC24V transistor output,
Communication ports:	Micro USB2.0, 2 RS485,
Connectable expansion modules:	No
Real-time clock:	Yes, deviation less than 5 min/month at 25°C
Memory area:	User program memory--Max 4K steps;
	User data memory--M area 1KB, V area 4KB;
	Data backup characteristic--E2PROM,448 bytes;
	Data retention characteristic--4K bytes.Lithium battery,
	3 years at normal temperature
Installation size(mm)(L×W×H):	90×97×70mm

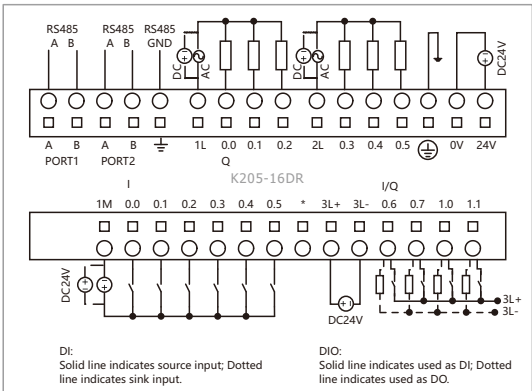
K205-16DR

Power supply:	DC24V
Built-in I/O points:	16 I/O, DI 6*DC24V, DIO 4*DC24V, DO 6*Relay,relay output
Communication ports:	Micro USB2.0, 2 RS485,
Connectable expansion modules:	No
Real-time clock:	Yes, deviation less than 5 min/month at 25°C
Memory area:	User program memory--Max 4K steps;
	User data memory--M area 1KB, V area 4KB;
	Data backup characteristic--E2PROM,448 bytes;
	Data retention characteristic--4K bytes.Lithium battery,
	3 years at normal temperature
Installation size(mm)(L×W×H):	90×97×70mm

K205-16DT



K205-16DR



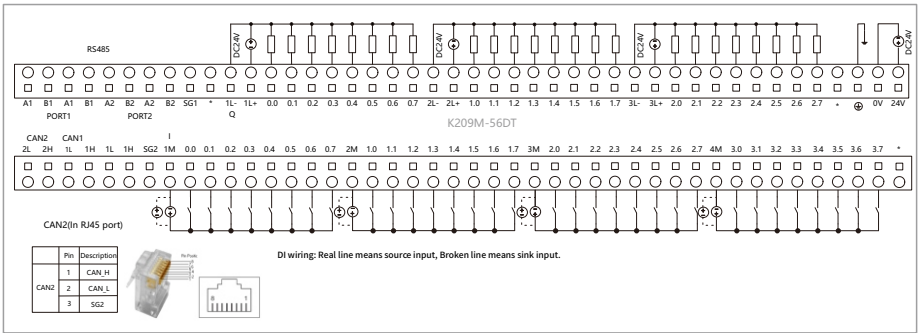
CPU209



K209M-56DT

Power supply:	DC24V
Built-in I/O points:	56 I/O, DI 32*DC24V, DO 24*DC24V,transistor output,
Communication ports:	Micro USB2.0, 2*RS485, 1*CAN, 1*expansion port (also be CAN interface at the same time, support CAN free communication).
Connectable expansion modules:	Yes, Support KS series expansion modules
Real-time clock:	Yes, deviation less than 5 min/month at 25℃
Memory area:	User program memory--Max 8K steps; User data memory--M area 4KB, V area 16KB; Data backup characteristic--E2PROM,the last 1K bytes of V area, permanent storage. Data retention characteristic--All V area.Lithium battery, 3 years at normal temperature
Installation size:	215×90×70.36mm(mm)(L×W×H)

K209M-56DT



Overview

Kinco KS series PLC are small type PLC, slim shape and high performance.

Based on the rich functions, high performance and high reliability of K5/K2 series, KS series adopts higher performance CPU, and also provides on-board CAN bus interface, high-performance high-speed input and output. Compact design saves installation space. Rich expansion modules can meet multiple application needs.



Main features

- **Small size, save space**
Thin and small size, width is less than 25mm, can be installed in very small electrical cabinet.
- **Higher computing speed**
Based on latest MCU platform, the scanning cycle for 1000 instructions is 0.25ms.
- **CANopen port**
The KS105C1 CPU module provides a CAN interface , which Support Kinco Motion control instruction, CANopen master、 slave and free protocol.
KS105C2/KS101M CPU module provides 1 CAN ,which Support Kinco Motion control instruction, CANopen master and free protocol.1*expansion port(also be CAN interface at the same time, support CAN free communication).
- **4 high speed counters**
4 high speed counters, Max. 200KHz.
Each counter supports up to 32 PV values, and 32 "CV=PV"interrupts.
Counter support multiple modes, such as single-phase, dual-phase (Up/Down),AB phase (1 multiplication and 4 multiplication). Users can setup by [HSC Wizard] in KincoBuilder.
- **4 high speed pulse output channels**
All 4 high speed pulse output channels support PTO and PWM output. 3 channels support Max. 200 KHz(load resistor less than 1.5kohn), 1 channel supports Max. 10 KHz.
Software provides PLS(PWM or PTO), Position control instruction set, PFLO_F(following instruction) for simple motion control application.
- **Serial communication port**
1*RS232(PORT 0),1*RS485(PORT 1),Max. baudrate 115.2K.
PORT0 can work as programming port, Modbus RTU slave and support free protocol.
PORT1 can work as programming port, Modbus master/slave, and support free protocol.
- **Expansion module as Modbus slave**
Expansion modules RS485 port can be used as Modbus slave.

CPU module

CPU module									
Name	Order no.	Description							
		Power supply	DI	DO	Expansion	HSC	Pulse output	Communication port	Dimension (Unit:mm)
KS101	KS101M-04DX	DC 24V	4	none	14	2*Max 200KHz single phase and AB phase	none	1*Ethernet , 2*CAN , 1*RS232 1*RS485 Max 115.2kbps	100*84.5*25.4
KS105	KS105-16DT		8	8* Transistor	14	4*200KHz Single-phase	3*200KHz 1*10KHz	1*RS232 , 1*RS485 Max 115.2kbps	
	KS105C1-16DT				Not support	and dual- phase(A/B		1*RS232 , 1*RS485 Max 115.2kbps , 1*CAN	
	KS105C2-16DT				14	phase)		1*RS232 , 1*RS485 Max 115.2kbps , 2*CAN	

Expansion module

Expansion module								
Name	Order no.	Description						
		Power supply	DI	DO	AI	AO	Communication port	Dimension (Unit:mm)
PM121	KS121-16DX	DC 24V	16	None	None	None	1*RS485, MODBUS slave	100*84.5*25.4
PM122	KS122-12XR		None	12*Relay				
PM122	KS122-14DT		None	14*Transistor				
PM123	KS123-14DR		8	6*Relay	4	2		
PM133	KS133-06IV		None	None				
PM131	KS131-04RD		4 thermal resistor input channel , PT100、PT1000、 Cu50、 R					

CPU101



KS101M-04DX

Power supply: DC24V
Built-in I/O points: 4*DI
Communication ports: Micro USB2.0, 1 Ethernet, 1*RS232, 1*RS485, 1*CAN, 1*expansion port(also be CAN interface at the same time, support CAN free communication).
Connectable expansion modules: Yes.At most 14 expansion modules
Real-time clock: Yes, deviation less than 5 min/month at 25°C
Memory area: User program memory--Max 8K steps;
User data memory--M area 4KB, V area 16KB;
Data backup characteristic--E2PROM,the last 1K bytes of V area, permanent storage.
Data retention characteristic--All V area.Lithium battery, 3 years at normal temperature
Installation size: 100×84.5×25.4mm(mm)(L×W×H)

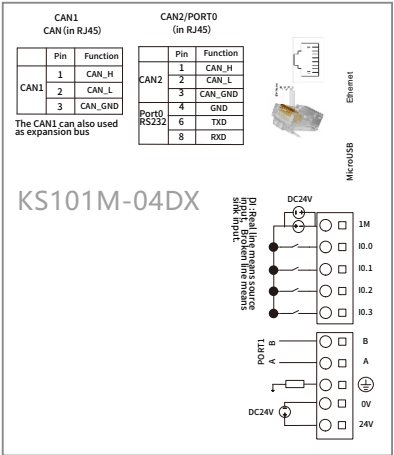
CPU105



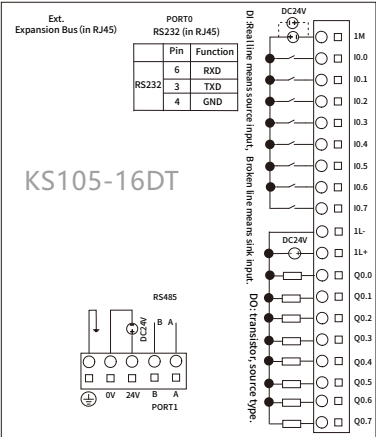
KS105-16DT

Power supply: DC24V
Built-in I/O points: 16 I/O, DI 8*DC24V, DO 8*DC24V, transistor output
Communication ports: 1*RS232 , 1*RS485
Connectable expansion modules: Yes.At most 14 expansion modules
Real-time clock: Yes, deviation less than 5 min/month at 25°C
Memory area: User program memory--Max 4K steps;
User data memory--M area 1KB, V area 4KB;
Data backup characteristic--E2PROM,448 bytes;
Data retention characteristic--V area 1K bytes (VB0-VB1023) .
C area (C0-C64).Lithium battery,3 years at normal temperature
Installation size: 100×84.5×25.4mm(mm)(L×W×H)

KS101M-04DX



KS105-16DT



CPU105



KS105C1-16DT

Power supply: DC24V
Built-in I/O points: 16 I/O, DI 8*DC24V, DO 8*DC24V, transistor output
Communication ports: 1 CAN , 1 RS232 , 1 RS485
Connectable expansion modules: No
Real-time clock: Yes, deviation less than 5 min/month at 25°C
Memory area: User program memory--Max 4K steps;
User data memory--M area 1KB, V area 4KB;
Data backup characteristic--E2PROM,448 bytes;
Data retention characteristic--V area 1K bytes (VB0-VB1023) .
C area (C0-C64).Lithium battery,3 years at normal temperature
Installation size: 100×84.5×25.4mm(mm)(L×W×H)



KS105C2-16DT

Power supply: DC24V
Built-in I/O points: 16 I/O, DI 8*DC24V, DO 8*DC24V, transistor output
Communication ports: 1 RS232 , 1 RS485, 1*CAN, 1*expansion port
(also be CAN interface at the same time, support CAN free communication).
Connectable expansion modules: Yes.At most 14 expansion modules
Real-time clock: Yes, deviation less than 5 min/month at 25°C
Memory area: User program memory--Max 4K steps;
User data memory--M area 1KB, V area 4KB;
Data backup characteristic--E2PROM,448 bytes;
Data retention characteristic--V area 1K bytes (VB0-VB1023) .
C area (C0-C64).Lithium battery,3 years at normal temperature
Installation size: 100×84.5×25.4mm(mm)(L×W×H)

Expansion Module



KS121-16DX

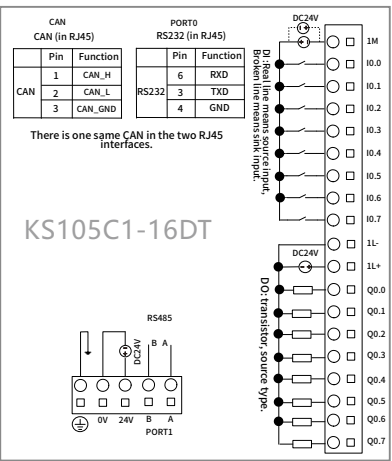
Power supply: DC24V
Input point: 16, divided into 2 groups, each group with 8 channels
Input type: Source / Sink
Input voltage: Rated DC24V, voltage range of logic "1" is DC11-30V
Isolation method: Photoelectric isolation between the signal and internal circuit.
Isolation voltage 500VAC / 1 minute
Installation size: 100*84.5*25.4mm(mm)(L×W×H)



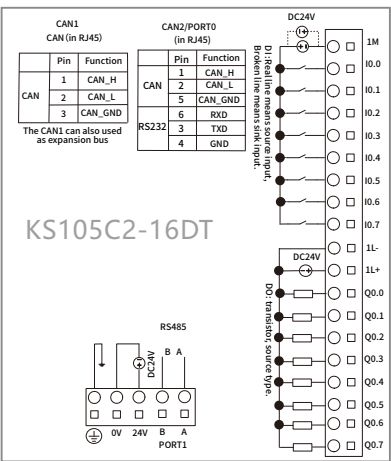
KS122-12XR

Power supply: DC24V
Output points: 12, divided into 3groups, each group with 4 channels
Output type: Relay
Load voltage: Max. DC30V/AC250V, max.load current of each channel is 2A
Isolation method: Relay, Isolation voltage of coil and contacts 1500VAC / 1 min
Installation size: 100*84.5*25.4mm(mm)(L×W×H)

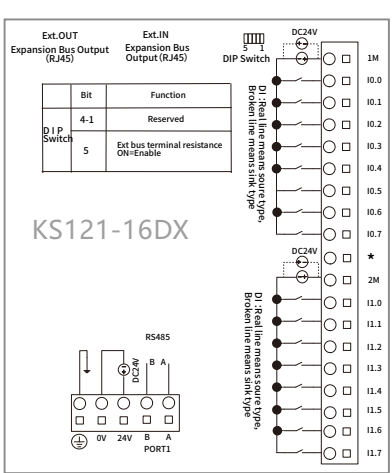
KS105C1-16DT



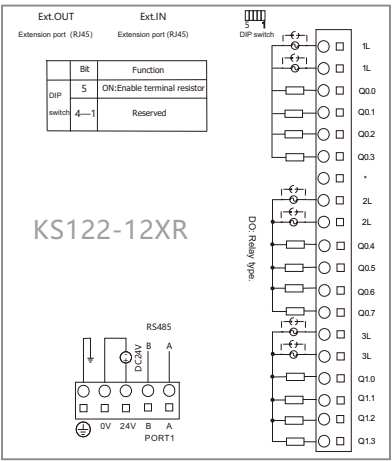
KS105C2-16DT



KS121-16DX



KS122-12XR



Expansion Module



KS122-14DT

Power supply: DC24V
Output point: 14, divided into 2 groups
Output type: Source
Output voltage: Rated DC24V, max. output current of each channel is 500mA
Circuit protection: Power supply access polarity protection、Output short circuit protection、Inductive load output protection
Isolation method: Photoelectric isolation between the signal and internal circuit.
Isolation voltage 500VAC / 1 minute
Installation size: 100*84.5*25.4mm(mm)(L×W×H)



KS123-14DR

Power supply: DC24V
Input point: 8, totally classified into 1 group
Input type: Source / Sink
Input voltage: Rated DC24V, voltage range of logic "1" is DC11-30V
Output point: 6, divided into 2 groups
Output type: Relay
Load voltage: Max. DC30V/AC250V, max.load current of each channel is 2A
Isolation method: DI channel adopts opto-coupler isolation
DO channels adopt relay isolation
Installation size: 100*84.5*25.4mm(mm)(L×W×H)



KS131-04RD

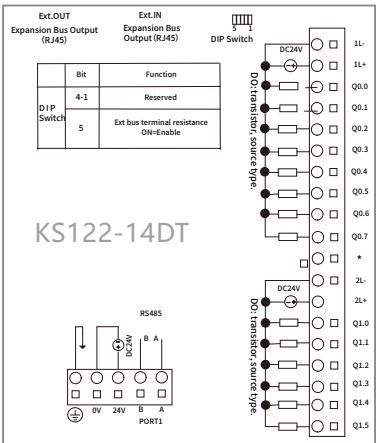
Power supply: DC24V
Input channel: 4
Input signal: Pt100、Pt1000、Cu50、Resistor are selectable, 2-wire or 3-wire
Measurement range: Pt100 -200~850℃、Cu50 -50~150℃、Pt1000 -50~300℃、Resistor 0~2000Ω
Measurement accuracy: Temperature±0.5℃; Resistance±1Ω
Parameter configuration: Each channel is individually parameterized through KincoBuilder software
Installation size: 100*84.5*25.4mm(mm)(L×W×H)



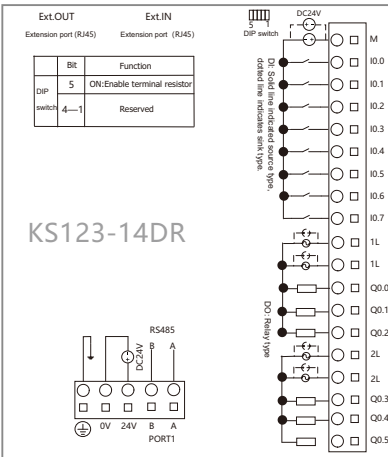
KS133-06IV

Power supply: DC24V
Input channel: 4 (4-20mA, 1-5V, 0-20mA, 0-10V signals are optional)
Measurement accuracy: 0.3% F.S
Output channel: 2 (4-20mA, 1-5V, 0-20mA, 0-10V signals are optional)
Output accuracy: 0.5% F.S
Parameter configuration: Each channel is individually parameterized through KincoBuilder software
Signal limitation: Current input is not allowed to exceed 24mA, voltage input is not allowed to exceed 12V
Installation size: 100*84.5*25.4mm(mm)(L×W×H)

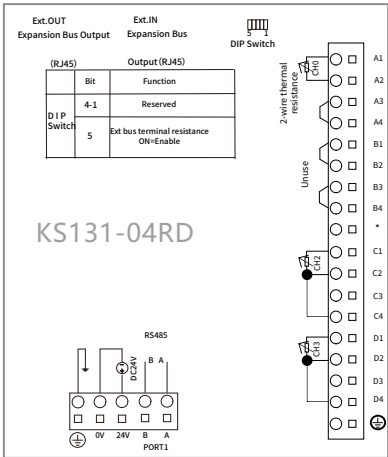
KS122-14DT



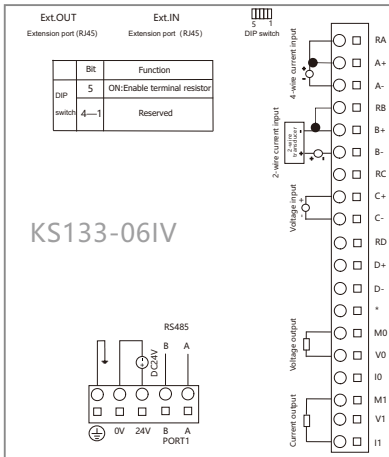
KS123-14DR



KS131-04RD



KS133-06IV



Overview

Kinco KW series PLC is a kind of Small integrated PLC, wireless products for intelligent manufacturing.

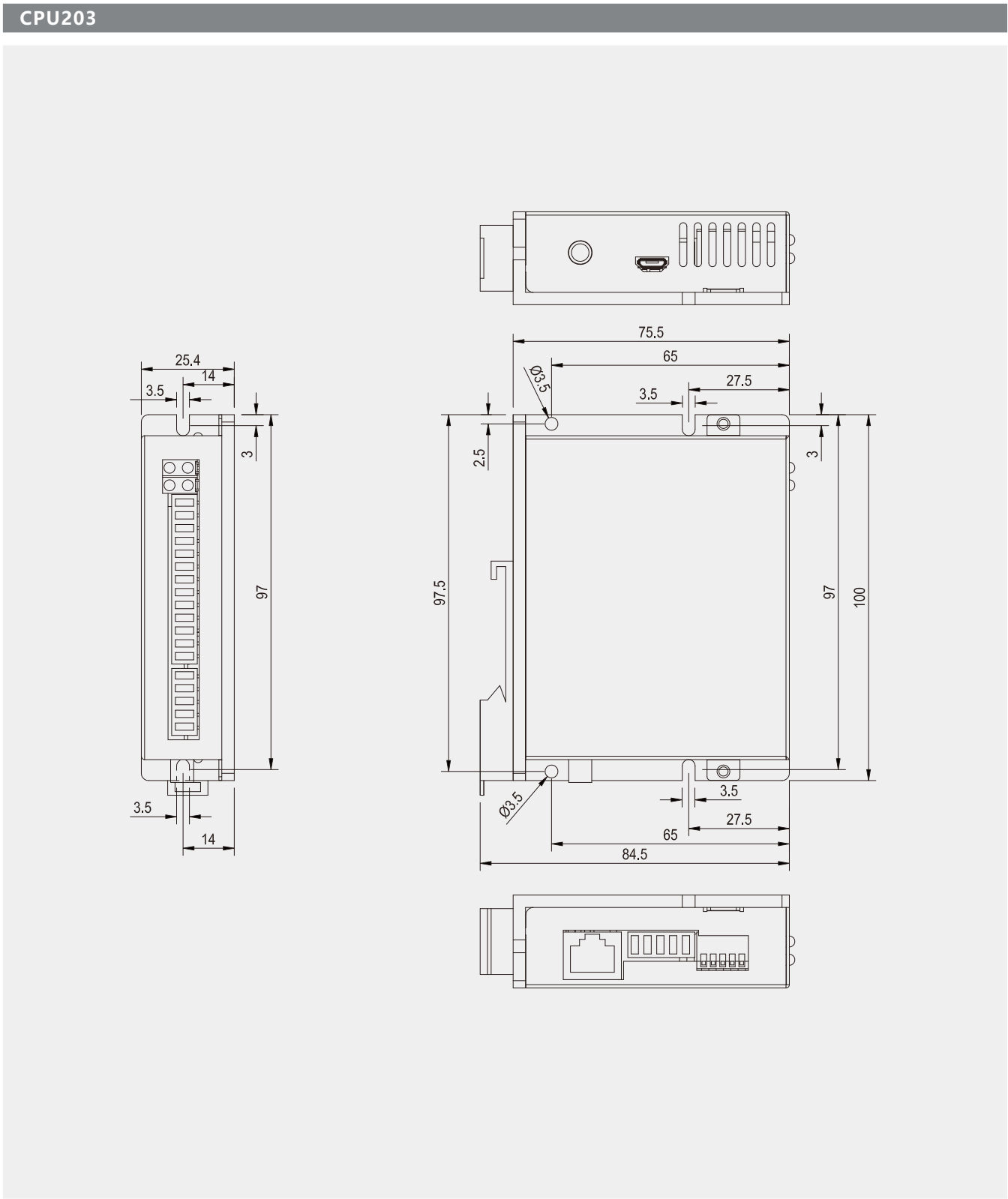
KW Series PLC in the continuation of the K5, K2 series of rich functions, high performance and high reliability of the premise, the use of higher performance CPU. It also provides functions closer to users' needs, such as built-in Ethernet interface, MicroUSB, high performance high-speed input and output, compact installation, and rich extension modules. It CAN also meet the needs of users in various applications.



Technical Specifications

Series	Order no.	Specification					
		Supply voltage	IO	Port	Wireless band	Number of expansion modules	Installation size(mm)
KW2	KW203-12DT-R2	DC 24V	8*DI, 4*DIO Include: 4 high-speed pulse inputs, 2 high-speed pulse output, Max 200KHz	1*RS485, 1*RS232, 1*CAN, 1*LoRa(wireless)	2.4GHz	Up to 14	100*84.5*25.4

Mechanical Dimensions (Unit : mm)



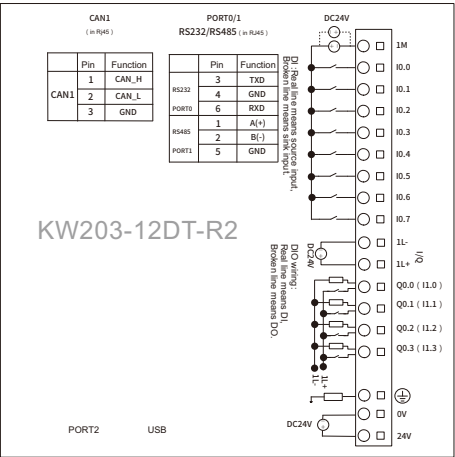
CPU203



KW203-12DT-R2

Power supply:DC24V (DC20.4V–DC28.8V)
Built-in I/O points: 12 I/O, 8*DI, 4*DIO
Expansion module:Up to 14 KS series expansion modules
High-speed input:4 , support single phase and AB phase, Max. : 200KHz
High-speed output:2 , support pulse + direction, Max. : 200KHz. (The resistor of load must be less than 1.5KΩ)
Wired communication port: 1*MicroUSB(Programming port), 1*RS232, 1*RS485, 1 CAN(Can be used as an extended port)
Wireless communication port: 1*LoRa, communication frequency band 2.4GHz
Wireless transmission rate:0.59 - 1300Kbps
Wireless transmission distance:The visible communication distance is greater than 1 km (clear weather, no obstruction, antenna gain 3dBi, antenna height 2 meters)
Real-time clock:Yes, deviation less than 5 min/month at 25°C
Installation size(mm): 100*84.5*25.4mm (L×W×H)
Memory area:User program memory--Max 4K steps;
User data memory--M area 1KB, V area 4KB;
Data backup characteristic--E2PROM, 448 bytes;
Data retention characteristic--V area 1K bytes (VB0-VB1023) . C area (C0-C64).
Lithium battery, 3 years at normal temperature

KW203-12DT-R2



Overview

Kinco MK series combines the advantages of the M-IoT, and is an economical all-in-one product that supports the M-IoT function launched by the Kinco Company. The Kinco MK series all-in-one HMI-PLC retains the high cost performance of the Kinco HP series of all-in-one machines, but adopts a high-performance CPU and the new DTools software technology platform for programming the HMI, so as to support more rich picture components and functions of the new software. In addition, combined with the Kinco M-IoT technology platform it provides remote download, pass through PLC communication over the network, VNC remote monitoring, equipment management and other advanced remote operation and maintenance functions. This will provide more value for our users.



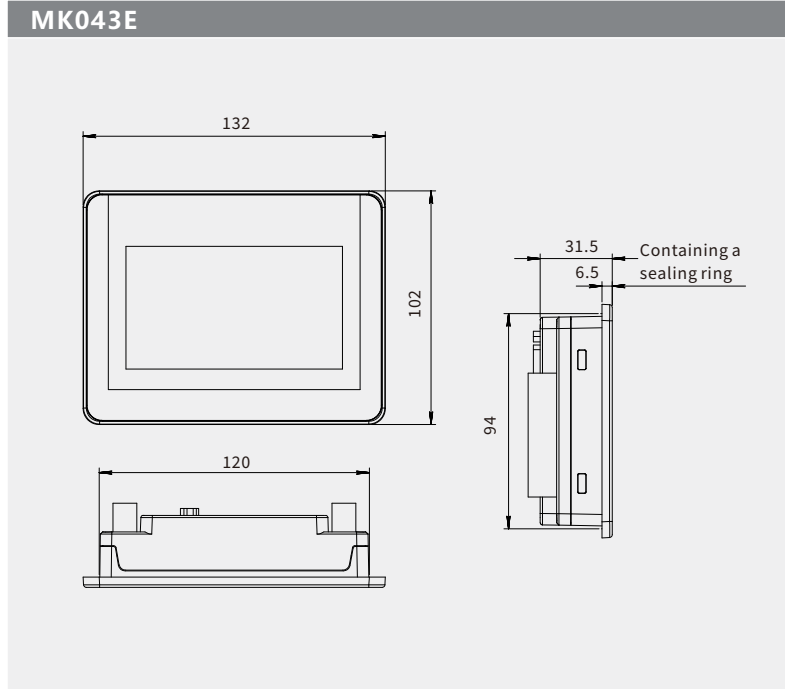
Main features

- **M-IoT Function**
Support program upload and download, pass through PLC communication through network, VNC remote monitoring, equipment management and other rich remote operation and maintenance functions, easy to use and powerful, to facilitate the application needs of customers in various applications.
- **Performance**
The HMI part adopts industrial CPU, 700MHz main frequency, 128MB Flash +64MB DDR2 mass storage, and supports the new generation touch screen Dtools programming software of Kinco, which further improves the performance of the product.
- **Extended Function**
The PLC supports a rich variety of extension modules, it can be extended with a maximum of 8 KS extension modules. It can meet the needs of a variety of applications of users, with a better cost performance.
- **High speed pulse counter**
4 high speed pulse counters are provided. Each high-speed counter allows a maximum of 32 PV values and supports 32 "CV =PV" interrupts. High speed counter supports a variety of modes, it can be single-phase, dual-phase (Up/Down), AB phase (1-fold and 4-fold frequency).The maximum counting frequency of the four pulse counters is 50KHz.
- **High speed pulse output**
4 high-speed pulse outputs are provided, all support PTO (pulse string) and PWM (pulse width modulation) output signals. The software provides PLS (PWM or PTO), positioning control command group, PFLO_F (follow instruction) and other functions to facilitate users implementing simple motion control applications.
- **Serial communication ports**
The PLC part contains 2 RS485 interfaces, PORT1, PORT2, with communication rates of up to 115.2kbps. PORT1 supports Kinco programming protocols, Modbus RTU master and slave stations, and free serial protocol. PORT2 supports Modbus RTU master and slave stations and free serial protocol.

Parameter

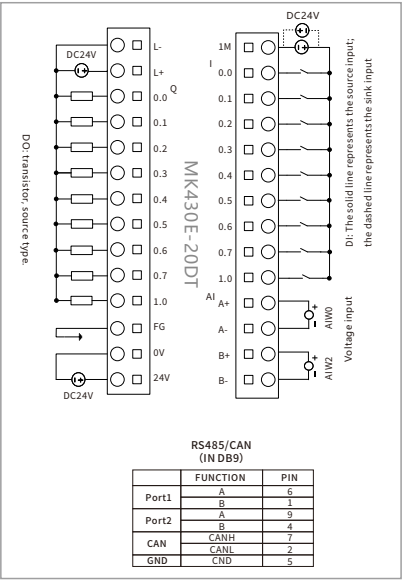
Model	MK070E-33DT	MK070E-32DX	MK043E-20DT
PLC Specification			
Supply voltage	DC24V		
Integration points	DI 16*DC24V, DO 14*DC24V 2*A,1*AO.(Supports voltage and current type)	DI 16*DC24V, DO 4*DC24V+12*Relay	DI 9*DC24V, DO 9*DC24V 2*AI.(only support voltage type)
Communication ports	USB2.0 Slave 2*RS485,max 115.2kbps		
Expansion	Supports up to 8 KS series expansion modules.		
Program download	USB2.0 SLAVE (PLC and HMI share one USB)		
High speed counting channel	4		
Pulse output channel	4	2	4
Realtime Clock	built-in, time deviation is less than 5min/month at 25℃.		
Memory area	User programme--Maximum. 4K instructions supported User data memory--M area 1K bytes; V area 4K bytes Data backup--E2PROM, 448 bytes. Retentive memory range--V area: VB0-VB1907 total 1908 bytes;C area: C0-C63.Lithium battery, 3 year lifetime at room temperature.		
HMI Specification			
Type	7" TFT		4.3" TFT
Resolution	800*480		480*272
Colors	256K		
Brightness	250 cd/m2		400cd/m2
Backlight	LED		
Touch panel	4 wire precision resistive(4H)		
Backlight lifetime	50000 hours		
CPU	792MHz RISC		
Ethernet	10M/100M		
Memory	128MB Flash + 64MB DDR2		
Recipe memory	256KB+RTC		
Expansion memory	1 USB Host		
Programming download	1*USB slave/Ethernet/USB flash disk		
External dimensions	204*150*33.9mm		132*102*31.5mm
Installation size	192*138mm		119*93mm

Dimension (Unit:mm)

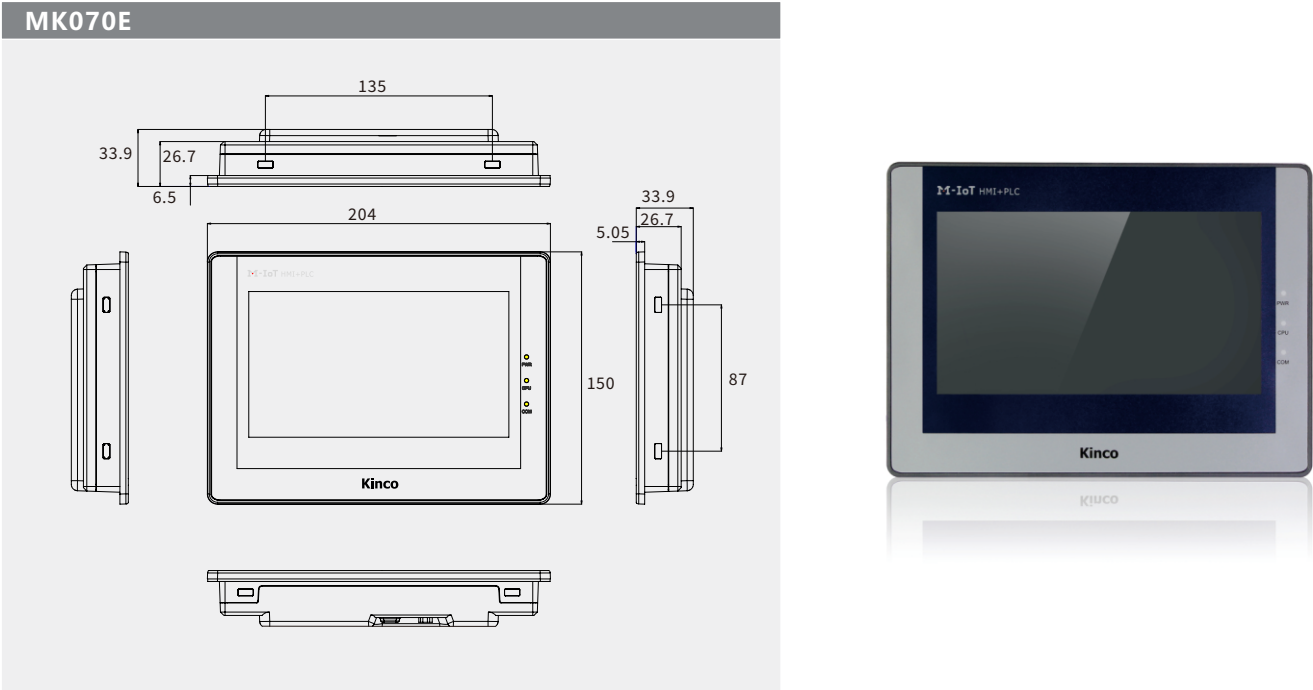


Wiring Diagram

MK043E-20DT

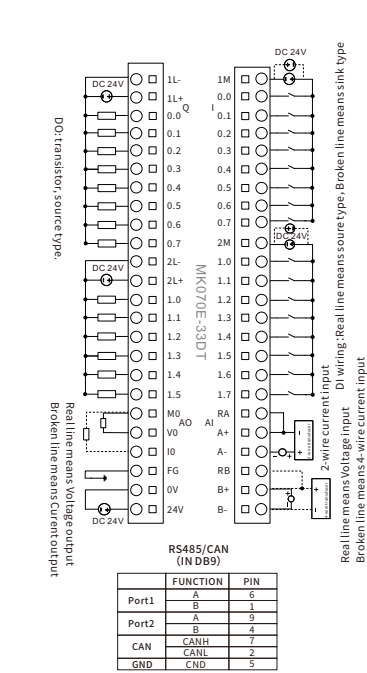


Dimension (Unit:mm)



Wiring Diagram

MK070E-33DT



Various module types

Kinco-K5 series PLCs comprise of CPU modules and expansion modules. Kinco-K5 provides about 20 kinds of models to meet various applications. CPU modules integrate with a certain number of I/O points on body. If I/O points are not enough for application, user could connect up to 10 expansion modules with up to 200 points to meet most automation applications.



In each system, the CPU module is arranged in the leftmost end, and expansion modules are connected to the expansion interface on the right.

A cable slot is designed on the left side of each expansion module. The expansion cable can be put in the cable slot to ensure seamless interconnection between modules after installing.

Integrated DC24V Sensor Supply

CPU modules provides DC24V power supply (Terminal name: VO+, VO-), with maximum current 300mA or 500mA. It can supply DC24V for the connected text display panel, HMI, as well as DI points.



K5 serials PLC get awards "best competence product"

Requirement on Application Environment

Climatic conditions, electrical service conditions, mechanical service conditions and so on comply with IEC61131-2 standard.

Transport and storage		
Climatic conditions	Temperature	Temperature -40°C ~ +70°C
	Relative humidity	10% ~ 95%, non-condensing
	Atmospheric Pressure	Correspond to altitude 0~3000m
Mechanical conditions	Free drop	Away from 1m height drop to cement floor for 5 times with transportation package
Operation		
Climatic conditions	Temperature	Opening device with natural ventilation, ambient temperature: -10 ~ 55°C
	Relative humidity	10% ~ 95%, non-condensing
	Atmospheric pressure	Altitude below 2000m
	Pollution degree	Applicable to pollution degree 2
Mechanical service conditions	Vibrations	5 < f < 8.4Hz, random amplitude: 3.5mm displacement, constant amplitude: 1.75mm displacement 8.4 < f < 150, random amplitude: 1.0g acceleration, constant amplitude: 0.5g acceleration
	Shock	Half-sine, 15g peak, 11ms duration, six shocks in each direction per axis.
Electromagnetic compatibility (EMC)	Electrostatic discharge	Air: 8kV, Contact: 4kV, Performance criteria B
	Surge	AC supply: 2KV CM, 1KV DM DC supply: 0.5KV CM, 0.5KV DM I/O and communication port: 1KV CM Performance criteria B
	Fast transient bursts	Power coupling: 2KV, 5KHz I/O and communication port: 1KV, 5KHz Performance criteria B
	Voltage Dips and interruptions	AC supply, At 50Hz, 0%voltage for 1 period, 40%voltage for 10 periods, 70%voltage for 20 periods. Performance criteria A
	Radiofrequency electromagnetic field	80~1000 MHz, 10V/m, modulate by 1KHz sine wave. Performance criteria A
Protection class	Dust and water proof	IP20
CE Certification		
LVD	Test Standard: Safety requirements of EN 61131-2:2007	
EMC	Test Standard: Clause 8,9 &10 of EN61131-2:2007	



Kinco-K5 series PLCs are upgraded products of K3 series. Specially, K506EA-30AT CPU module, integrated with analog I/O on body, pulse output, high-speed counter, is a kind of versatile micro integrated PLC (Programmable Logic Controller), and can fully meet requirements of small devices and process control. Kinco-K5 combines with MT4000 HMI, CD/FD/JD servo driver and inverter to provide users with easy automation solutions.

Name	Order no.	Description
CPU module		
CPU504EX	K504EX-14AT	AC85-265V power supply, DI 8*DC24V, DO 6*DC24V. 2 serial communication ports (1*RS232, 1*RS485), up to 4 expansion modules connectable.
	K504EX-14AR	AC85-265V power supply, DI 8*DC24V, DO 6*Relay. 2 serial communication ports (1*RS232, 1*RS485), up to 4 expansion modules connectable.
	K504EX-14DT	DC20.4-28.8V power supply, DI8*DC24V, DO6*DC24V, 2 serial communication ports (1*RS232, 1*RS485), up to 4 expansion modules connectable.
	K504EX-14DR	DC20.4-28.8V power supply, DI8*DC24V, DO6*Relay. 2 serial communication ports (1*RS232, 1*RS485), up to 4 expansion modules connectable.
CPU506	K506-24AT	AC85-265V power supply, DI 14*DC24V, DO 10*DC24V. 3 serial communication ports (1*RS232, 2*RS485), up to 12 expansion modules connectable.
	K506-24AR	AC85-265V power supply, DI 14*DC24V, DO 10* Relay. 3 serial communication ports (1*RS232, 2*RS485) , up to 10 expansion modules connectable.
	K506-24DT	DC20.4-28.8V power supply, DI 14*DC24V, DO 10*DC24V. 3 serial communication ports (1*RS232, 2*RS485) . , up to 12 expansion modules connectable.
	K506-24DR	DC20.4-28.8V power supply, DI 14*DC24V, DO 10*Relay. 3 serial communication ports (1*RS232, 2*RS485) , up to 10 expansion modules connectable.
CPU506EA	K506EA-30AT	AC85-265V power supply, DI 14*DC24V, DO 10*DC24V, AI 4*IV, AO 2*IV. 3 serial communication ports (1*RS232, 2*RS485) , up to 12 expansion modules connectable.
	K506EA-30DT	DC20.4-28.8V power supply, DI 14*DC24V, DO 10*DC24V, AI 4*IV, AO 2*IV. 3 serial communication ports (1*RS232, 2*RS485) , up to 10 expansion modules connectable.
CPU508	K508-40AT	AC85-265V power supply, DI 24*DC24V, DO 16*DC24V. 3 serial communication ports (1*RS232, 2*RS485) , up to 12 expansion modules connectable.
	K508-40AX	AC85-265V power supply, DI 24*DC24V, DO 4*DC24V+12*Relay. 3 serial communication ports (1*RS232, 2*RS485) , up to 10 expansion modules connectable.
	K508-40AR	AC85-265V power supply, DI 24*DC24V, DO 16*Relay. 3 serial communication ports (1*RS232, 2*RS485) , up to 12 expansion modules connectable.
	K508-40DT	DC20.4-28.8V power supply, DI 24*DC24V, DO 16*DC24V. 3 serial communication ports (1*RS232, 2*RS485) , up to 10 expansion modules connectable.
	K508-40DR	DC20.4-28.8V power supply, DI 24*DC24V, DO 16*Relay. 3 serial communication ports (1*RS232, 2*RS485) , up to 12 expansion modules connectable.

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



SUMMARY: CPU module is the core of Kinco-K5 series PLCs, which combines a MCU, I/O unit, power supply and kinds of communication interfaces. K5 provides different CPU models to meet varied applications. The following table describes the main specifications of each type of CPU.

Name	Order no.	Description
Expansion I/O module		
PM521	K521-08DX	DI 8*DC24V
	K521-16DX	DI 16*DC24V
PM522	K522-08XR	DO 8*relay
	K522-16XR	DO 16*relay
	K522-08DT	DO 8*DC24V
	K522-16DT	DO 16*DC24V
PM523	K523-16DR	DI 8*DC24V, DO 8*relay
	K523-08DR	DI 4*DC24V, DO 4*relay
	K523-16DT	DI 8*DC24V, DO 8*DC24V
	K523-08DT	DI 4*DC24V, DO 4*DC24V
PM531	K531-04IV	4 analog input channels, 4-20mA/1-5V/0-20mA/0-10V
	K531-04RD	PT100, PT1000, Cu50, Resistor
	K531-04TC	4 thermocouple input channels, internal/external compensation selectable, J type, K type, E type, S type
PM532	K532-02IV	2 analog output channels, 4-20mA/1-5V/0-20mA/0-10V
PM533	K533-04IV	2 analog input channels, 4-20mA/1-5V/0-20mA/0-10V 2 analog output channels, 4-20mA/1-5V/0-20mA/0-10V
Expansion function module		
SM541	K541	CAN communication expansion module, supports CANopen master and CAN free protocol.
Power supplier module		
PS580	K580	Input voltage:AC85~265V;output rated current:5V 1A/24V 250mA

Parameter	CPU504EX	CPU506	CPU506EA	CPU508
I/O and communication port				
Built-in digital points	8*DI / 6*DO	14*DI / 10*DO	14*DI / 10*DO	24*DI / 16*DO
Built-in analog points	--	--	4*AI / 2*AO	--
Number of connectable expansion modules	4	10	10	10
Communication ports	2, PORT0:RS232, PORT1: RS485	3, PORT0: RS232, PORT1、 PORT2: RS485		
	PORT0 supports programming protocol, Modbus RTU slave, free protocol PORT1/PORT2 support RTU master and slave, free protocol			
High-speed counter	2			
Single-phase	2, Max. 60KHz			
Dual-phase	2, Max. 20KHz			
Pulse output	2, Max. 200KHz (load should be less than 1.5KΩ, otherwise the maximum frequency will be less than 200KHz.)			
Memory area				
User program memory	Max. 4K steps			
user data memory	M area 1KB; V area 4KB			
DI mapping area	10 bytes (80*DI)	32 bytes (256*DI)		
DO mapping area	10 bytes (80*DO)	32 bytes (256*DO)		
AI mapping area	32 bytes (16*AO)	64 bytes (32*AI)		
AO mapping area	32 bytes (16*DO)	64 bytes (32*AO)		
Data backup characteristic	FRAM, 448 bytes			
Data retention characteristic	4K bytes. Lithium battery, 3 years at normal temperature			
Others				
Timer	256 1ms time base: 4 10ms time base: 16 100ms time base: 236			
Timer interruption	2, time base: 0.1ms			
Counter	256			
Real-time clock	Yes, with an error not greater than 2 minutes/month under temperature of 25℃			
DC24V Output supply	300mA, short circuit protection	500mA, short circuit protection		

CPU504EX

CPU504EX



K504EX-14AT

Power supply: AC85-265V power supply
Built-in I/O points: 14 I/O, DI 8*DC24V, DO 6*DC24V, transistor output
Communication port: 1 RS232
Connectable expansion modules: Yes. At most 4 expansion modules
Real-time clock: Yes
Installation size(mm): 97×114×70 (L×W×H)



K504EX-14DT

Power supply: DC20.4-28.8V power supply
Built-in I/O points: 14 I/O, DI 8*DC24V, DO 6*DC24V, transistor output
Communication port: 1 RS232, 1*RS485
Connectable expansion modules: Yes. At most 4 expansion modules
Real-time clock: Yes
Installation size(mm): 97×114×70 (L×W×H)



K504EX-14AR

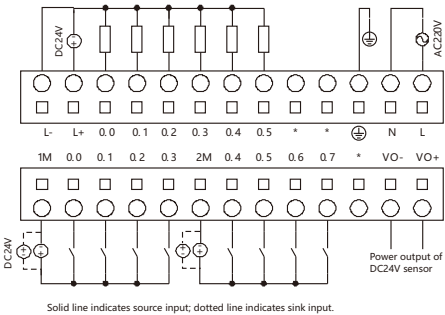
Power supply: AC85-265V power supply
Built-in I/O points: 14 I/O, DI 8*DC24V, DO 6*Relay, relay output
Communication port: 1 RS232, 1 RS485
Connectable expansion modules: Yes. At most 4 expansion modules
Real-time clock: Yes
Installation size(mm): 97×114×70 (L×W×H)



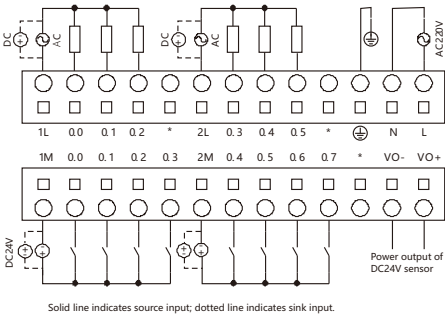
K504EX-14DR

Power supply: DC20.4-28.8V power supply
Built-in I/O points: 14 I/O, DI 8*DC24V, DO 6*Relay, relay output
Communication port: 1 Rs232, 1*RS485
Connectable expansion modules: Yes. At most 4 expansion modules
Real-time clock: Yes
Installation size(mm): 97×114×70 (L×W×H)

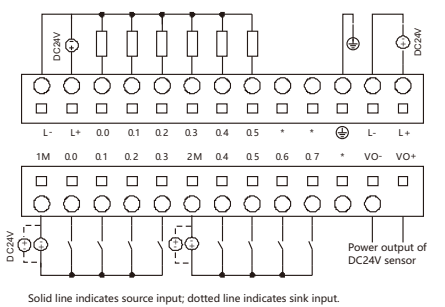
K504EX-14AT



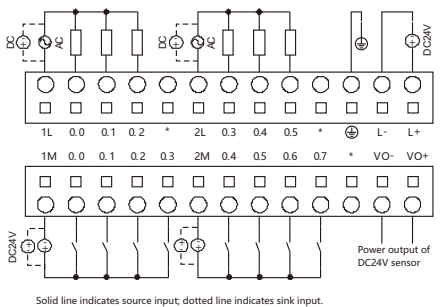
K504EX-14AR



K504EX-14DT



K504EX-14DR



CPU506



K506-24AT

Power supply:	AC85-265V power supply
Built-in I/O points:	24 I/O, DI 14*DC24V, DO 10*DC24V, transistor output
Communication ports:	1 RS232, 2 RS485
Connectable expansion modules:	Yes. At most 10 expansion modules
Real-time clock:	Yes
Installation size(mm):	125×114×70 (L×W×H)



K506-24AR

Power supply:	AC85-265V power supply
Built-in I/O points:	24 I/O, DI 14*DC24V, DO 10*Relay, relay output
Communication ports:	1 RS232, 2 RS485
Connectable expansion modules:	Yes. At most 10 expansion modules
Real-time clock:	Yes
Installation size(mm):	125×114×70 (L×W×H)

CPU506



K506-24DT

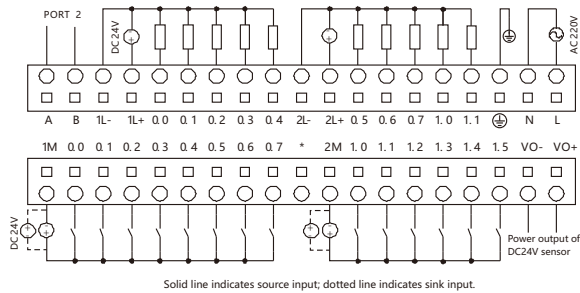
Power supply:	DC20.4-28.8V power supply
Built-in I/O points:	24 I/O, DI 14*DC24V, DO 10*DC24V, transistor output
Communication port:	1 RS232, 2 RS485
Connectable expansion modules:	Yes. At most 10 expansion modules
Real-time clock:	Yes
Installation size(mm):	125×114×70 (L×W×H)



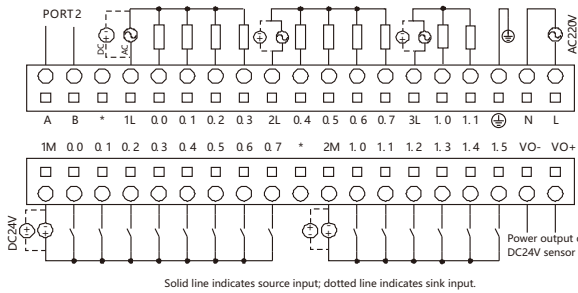
K506-24DR

Power supply:	DC20.4-28.8V power supply
Built-in I/O points:	24 I/O, DI 14*DC24V, DO 10*Relay, relay output
Communication port:	1 RS232, 2 RS485
Connectable expansion modules:	Yes. At most 10 expansion modules
Real-time clock:	Yes
Installation size(mm):	125×114×70 (L×W×H)

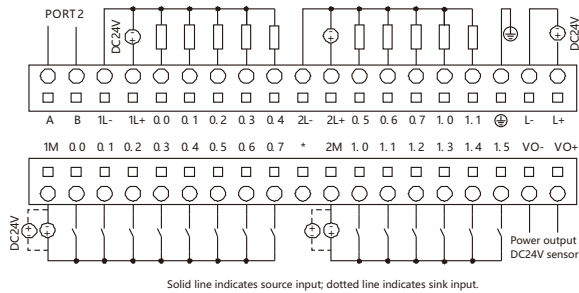
K506-24AT



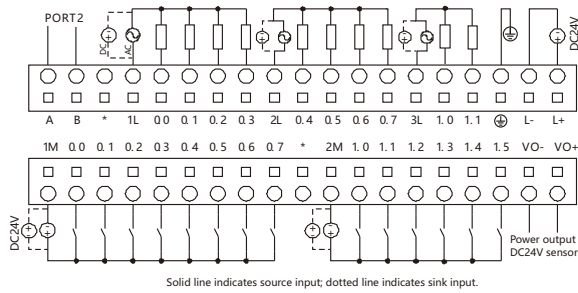
K506-24AR



K506-24DT



K506-24DR



CPU506EA



K506EA-30AT

Power supply: AC85-265V power supply
Built-in I/O points: 30 I/O, DI 14*DC24V, DO 10*DC24V, DO is transistor output,
AI 4*IV, AO 2*IV,
AI/AO support 4-20mA/1-5V/0-20mA/0-10V signal forms
Communication port: 1 RS232, 2 RS485
Connectable expansion modules: Yes. At most 10 expansion modules
Real-time clock: Yes
Installation size(mm): 200×114×70 (L×W×H)

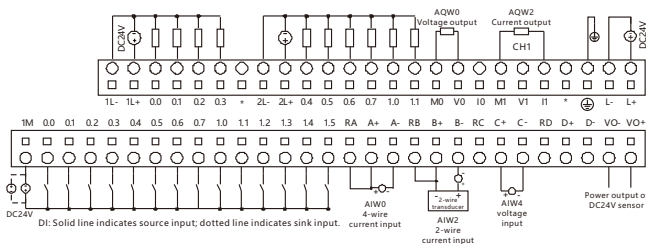
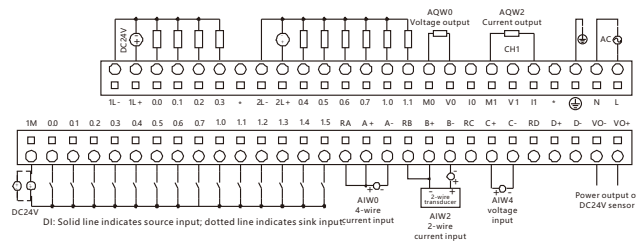


K506EA-30DT

Power supply: DC20.4-28.8V power supply
Built-in I/O points: 30 I/O, DI 14*DC24V, DO 10*DC24V, DO is transistor output,
AI 4*IV, AO 2*IV,
AI/AO support 4-20mA/1-5V/0-20mA/0-10V signal forms
Communication port: 1 RS232, 2 RS485
Connectable expansion modules: Yes. At most 10 expansion modules
Real-time clock: Yes
Installation size(mm): 200×114×70 (L×W×H)

K506EA-30AT

K506EA-30DT



K508-40AT

Power supply: AC85-265V power supply
Built-in I/O points: 40 I/O,DI 24*DC24V, DO 16*DC24V, transistor output
Communication port: 1 RS232, 2 RS485
Connectable expansion modules: Yes. At most 10 expansion modules
Real-time clock: Yes
Installation size(mm): 200×114×70 (L×W×H)



K508-40AR

Power supply: AC85-265V power supply
Built-in I/O points: 40 I/O, DI 24*DC24V, DO 16*Relay, relay output
Communication port: 1 RS232, 2 RS485
Connectable expansion modules: Yes. At most 10 expansion modules
Real-time clock: Yes
Installation size(mm): 200×114×70 (L×W×H)

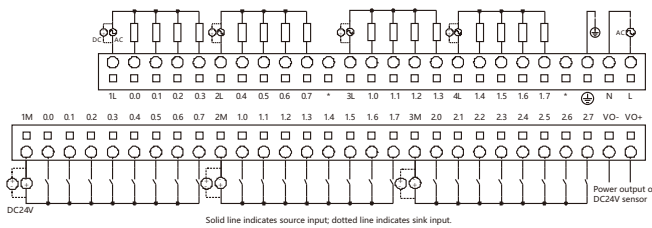
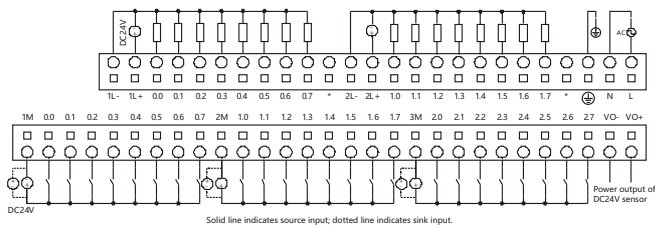


K508-40AX

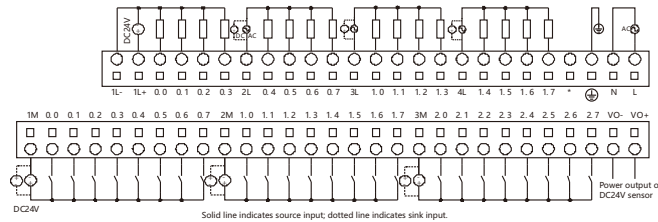
Power supply: AC85-265V power supply
Built-in I/O points: 40 I/O, DI 24*DC24V, DO 12*Relay+4*DC24V
Communication port: 1 RS232, 2 RS485
Connectable expansion modules: Yes. At most 12 expansion modules
Real-time clock: Yes
Installation size(mm): 200×114×70 (L×W×H)

K508-40AT

K508-40AR



K508-40AX



CPU508



K508-40DT

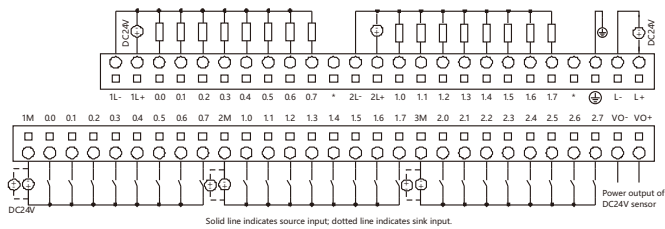
Power supply: DC20.4-28.8V power supply
Built-in I/O points: 40 I/O, DI 24*DC24V, DO 16*DC24V, transistor output
Communication port: 1 RS232, 2 RS485
Connectable expansion modules: Yes. At most 10 expansion modules
Real-time clock: Yes
Installation size(mm): 200×114×70 (L×W×H)



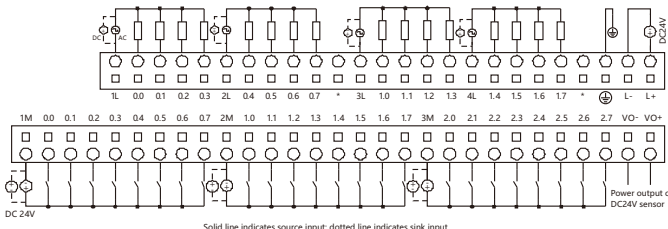
K508-40DR

Power supply: DC20.4-28.8V power supply
Built-in I/O points: 40 I/O, DI 24*DC24V, DO 16*Relay, relay output
Communication port: 1 RS232, 2 RS485
Connectable expansion modules: Yes. At most 10 expansion modules
Real-time clock: Yes
Installation size(mm): 200×114×70 (L×W×H)

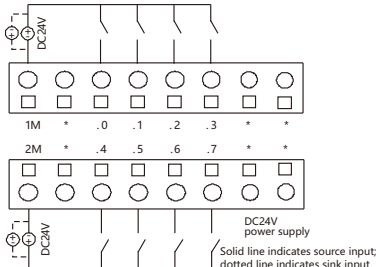
K508-40DT



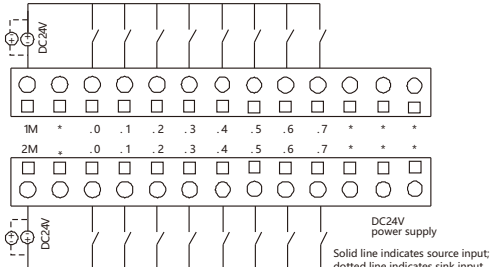
K508-40DR



K521-08DX



K521-16DX



Switch Input Module PM521



K521-08DX

Input points: 8, divided into 2 groups, each group with 4 channels
Input type: Source (common-cathode)/sink (common-anode)
Input voltage: Rated DC24V, voltage range of logic "1" is DC11 ~ 30V
Isolation mode: Opto-coupler isolation between input signal and internal circuit, isolation voltage 500VAC/1 min
Signal indication: Separated LED indicates for each channel
Module width: 50mm



K521-16DX

Input points: 16, divided into 2 groups, each group with 8 channels
Input type: Source (common-cathode)/sink (common-anode)
Input voltage: Rated DC24V, voltage range of logic "1" is DC11 ~ 30V
Isolation mode: Opto-coupler isolation between input signal and internal circuit, isolation voltage 500VAC/1 min
Signal indication: Separated LED indicates for each channel
Module width: 75mm

Switch Output Module **PM522**



K522-08DT

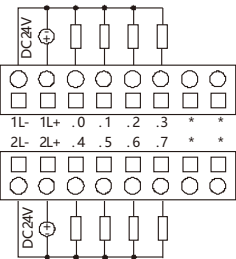
Output points: 8, divided into 2 groups, each group with 4 channels
Output type: source (common-cathode)
Output voltage: Rated DC24V, max. output current of each channel is 500mA
Circuit protection: Power supply access polarity protection, output short-circuit protection, inductive load protection
Isolation mode: Opto-coupler isolation between input signal and internal circuit, isolation voltage 500VAC/1 min
Signal indication: Separated LED indicates for each channel
Module width: 50mm



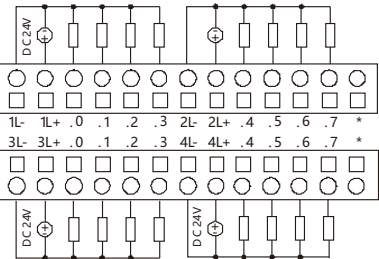
K522-16DT

Output points: 16, divided into 4 groups, each group with 4 channels
Output type: source (common-cathode)
Output voltage: Rated DC24V, max. output current of each channel is 500mA
Circuit protection: Power supply access polarity protection, output short-circuit protection, inductive load protection
Isolation mode: Opto-coupler isolation between input signal and internal circuit, isolation voltage 500VAC/1 min
Signal indication: Separated LED indicates for each channel
Module width: 75mm

K522-08DT



K522-16DT



K522-08XR

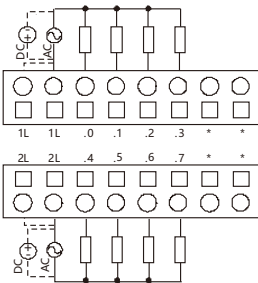
Output points: 8, divided into 2 groups, each group with 4 channels.
Output type: Relay.
Load voltage: Max. DC30V/AC250V, max. load current of each channel is 2A.
Isolation mode: Opto-coupler isolation between coil and contact, isolation voltage 2000Vrms.
Signal indication: LED indicates for each separated channel.
Module width: 50mm.



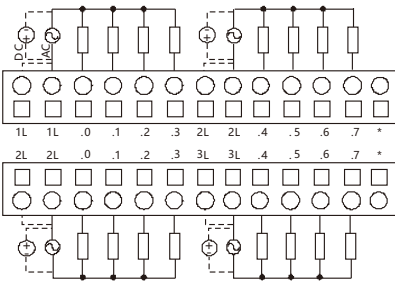
K522-16XR

Output points: 16, divided into 4 groups, each group with 4 channels.
Output type: Relay.
Load voltage: Max. DC30V/AC250V, max. load current of each channel is 2A.
Isolation mode: Opto-coupler isolation between coil and contact, isolation voltage 2000Vrms.
Signal indication: Separated LED indicates for each channel.
Module width: 75mm.

K522-08XR



K522-16XR



Switch Input/output Module **PM523**

Switch Input/output Module **PM523**



K523-08DR

Input point: 4, totally classified into 1 group
Input type: Source (common-cathode)/sink (common-anode)
Input voltage: Rated DC24V, voltage range of logic "1" is DC11 ~ 30V
Output point: 4, totally classified into 1 group
Output type: Relay
Load voltage: Max. DC30V/AC250V, max. load current of each channel is 2A
Isolation mode: DI channels adopt opto-coupler isolation,
DO channels adopt relay isolation
Signal indication: Separated LED indicates for each channel
Module width: 50mm



K523-08DT

I/O point: 8, DI 4*DC24V, DO 4*DC24V
Input type: Source (common-cathode)/sink (common-anode)
Input voltage: Rated DC24V, voltage range of logic "1" is DC11 ~ 30V
Output type: Transistor
Output voltage: Rated DC24V, max. output current of each channel is 0.5A
Isolation mode: Opto-coupler isolation
Signal indication: Separated LED indicates for each channel
Module width: 50mm.



K523-16DR

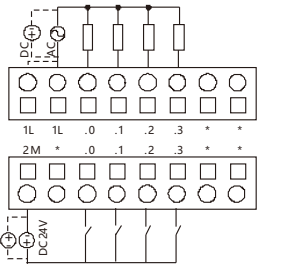
Input point: 8, totally classified into 1 group
Input type: Source (common-cathode)/sink (common-anode)
Input voltage: Rated DC24V, voltage range of logic "1" is DC11 ~ 30V
Output point: 8, divided into 2 groups, each group with 4 channels
Output type: Relay
Load voltage: Max. DC30V/AC250V, max. load current of each channel is 2A
Isolation mode: DI channels adopt opto-coupler isolation,
DO channels adopt relay isolation
Signal indication: Separated LED indicates for each channel
Module width: 75mm



K523-16DT

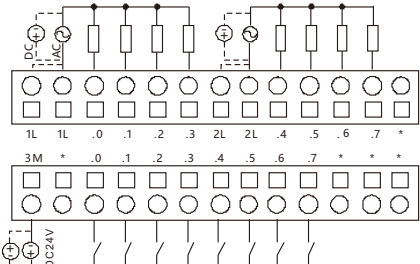
I/O point: 16, DI 8*DC24V, DO 8*DC24V
Input type: Source (common-cathode)/sink (common-anode)
Input voltage: Rated DC24V, voltage range of logic "1" is DC11 ~ 30V
Output type: Transistor
Output voltage: Rated DC24V, max. output current of each channel is 0.5A
Isolation mode: Opto-coupler isolation
Signal indication: Separated LED indicates for each channel
Module width: 75mm

K523-08DR



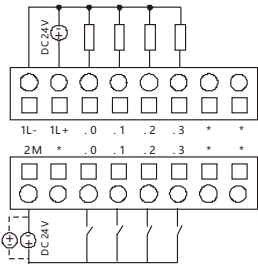
Solid line indicates source input; dotted line indicates sink input.

K523-16DR



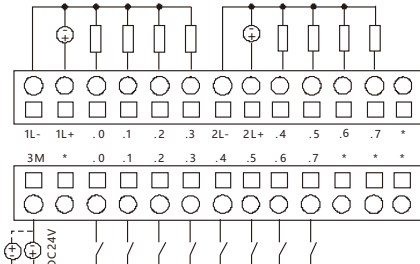
Solid line indicates source input; dotted line indicates sink input.

K523-08DT



Solid line indicates source input; dotted line indicates sink input.

K523-16DT



Solid line indicates source input; dotted line indicates sink input.

Analog Input Module **PM531**



K531-04IV

Input channel: 4
Input signal: 4-20mA, 1-5V, 0-20mA, 0-10V signals are optional
Measurement accuracy: 0.3% F.S
Parameter configuration: Parameters of each channel can be configured by Kincobuilder software separately
Signal limitation: Input current of each channel shall not exceed 24mA, input voltage shall not exceed 12V
Error indication: Red LED of each channel indicates input signal exceeds measurement range
Module width: 50mm



K531-04RD

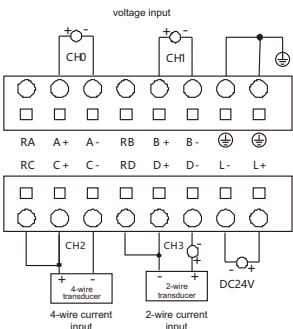
Input channel: 4
Input signal: Pt100, Cu50, Pt1000, Cu100, Resistor are selectable, 2-wire or 3-wire
Measurement range: Pt 100 -200~850°C, Cu50 -50~150°C, Pt1000 -50~300°C, Resistor 0~2000Ω
Measurement accuracy: Temperature ±0.5°C, Resistance ±1Ω
Parameter configuration: Independent parameter configuration can be made for each channel
by KincoBuilder software
Error indication: Red LED of each channel indicates input signal exceeds measurement range
Module width: 50mm



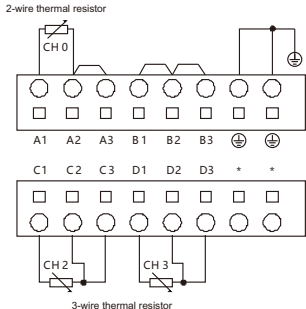
K531-04TC

Input channel: 4
Input signal: J type, K type, E type, S type, internal/external compensation selectable
Measurement range: J type -210~1200°C, K type -270~1300°C, E type -120~1000°C, S type -50~1600°C
Measurement accuracy: 0.1%F.S.
Parameter configuration: Independent parameter configuration can be made for each channel
by KincoBuilder software
Error indication: Red LED of each channel indicates input signal exceeds measurement range
Module width: 50mm

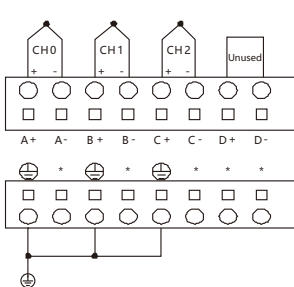
K531-04IV



K531-04RD



K531-04TC



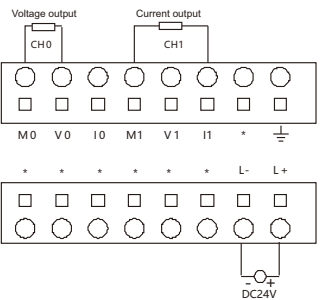
Analog Output Module **PM532**



K532-02IV

Output channel: 2
Signal type: 4-20mA, 1-5V, 0-20mA, 0-10V signals are optional
Output accuracy: 0.3%F.S.
Parameter configuration: Parameters of each channel can be configured by Kincobuilder software separately
Signal limitation: The value of output channel is not allowed to exceed chosen range
Module width: 50mm

K532-02IV



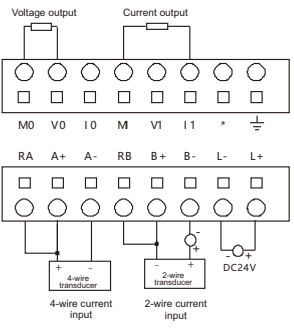
Analog Input/output Module **PM533**



K533-04IV

Input channel: 2. 4-20mA, 1-5V, 0-20mA, 0-10V signals are optional
Measurement accuracy: 0.3% F.S
Output channel: 2. 4-20Ma, 1-5V, 0-20mA, 0-10V signals are optional
Output accuracy: 0.3%F.S.
Parameter configuration: Parameters of each channel can be configured by Kincobuilder software separately
Signal limitation: Input current of each channel shall not exceed 24mA, input voltage shall not exceed 12V
The value of output channel is not allowed to exceed chosen range
Error indication: Red LED of each channel indicates input signal exceeds measurement range

K533-04IV



CAN Communication Module SM541



K541

Function: CANopen master station and CAN free protocol communication

Communication baudrate: Support 10K~1Mbps

Electrical isolation: Power supply, communication circuit are separated from external,
Isolation voltage is max. 2500VAC/1 min.

Signal indication: Separated LED indicates power, working status, communication status.

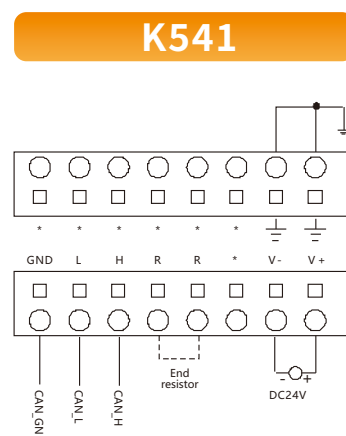
Module width: 50mm

Specification of CANopen master station

- Adopt CAN2.0 standard. Comply with standard CANopen protocol DS301 V4.2.0;
- Support NMT(Network management), and as NMT master;
- support up to 72 CANopen slave stations. Users could configure boot-up by KincoBuilder;
- Support PDO: each slave station support up to 8 TPDOs and 8 RPDOs; Up to 256 TPDOs and 256 RPDOs in total;
- Support client-end CANopen message, provide SDO read, write: SDO instructions support standard accelerated transfer mode;
- Support preset emergency message, node protection, heartbeat message;
- With perfect network error handling function.

Specification of CAN free protocol communication

- Support CAN2.0A and CAN2.0B standard;
- Support standard communication baudrate up to 10K~1Mbps;
- Provide CAN_Write, CAN_Read, CAN_Rx and so on free communication instructions.



K541

Expansion Power Supply Module PS580



K580

Voltage: AC85-265V

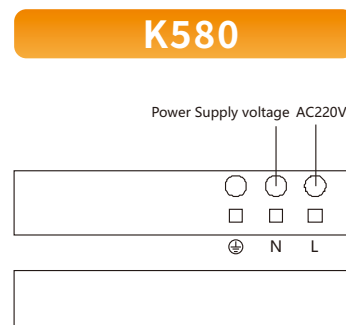
Output rated current: 5V 1A/24V 250mA

Signal display: PW light will be on when the power Supply is correct.

Module width: 75mm

Main Features:

- PS580 doesn't need to configure in software.
- PS580 doesn't use the address of I/O image area.
- PS580 won't be counted as CPU expansion module.
- If the expansion modules is over 7 pieces, we suggest to use PS580.



K580

Installation Mode

Two modes can be used to install a Kinco-K5 into a control cabinet:

1. **DIN rail clamping**
2. **M4 screw installation**

Upon installation, the module can either be horizontally or vertically arranged, or even a lengthened extension cable can be used for connection if the CPU module and extension module needs distributed installation in the case of non-centralized space in the control cabinet.

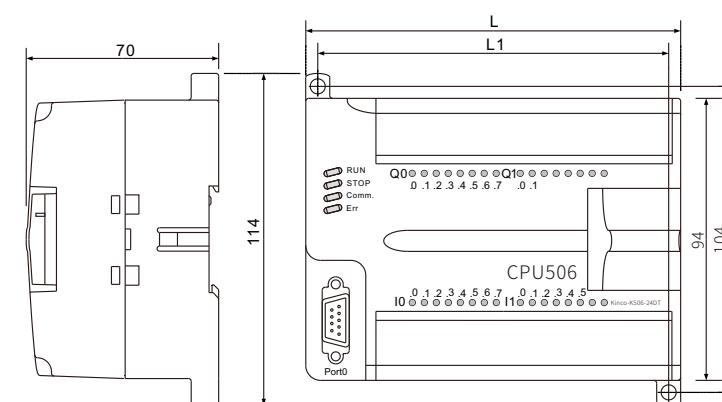


Wiring Connecting Terminal

The K5 series PLC is designed with pluggable terminal blocks to facilitate wiring.



Installation Diagram for Modules of Different Dimensions



Size of module installation hole
(hole diameter: 4.2mm)

If L=200mm, L1=190mm

If L=125mm, L1=115mm

If L=97mm, L1=87mm

If L=75mm, L1=65mm

If L=50mm, L1=40mm

For dimensions of each module,
refer to the module performance
parameters table.

Overview

Kinco-K6 series PLC is a small PLC product. It is a high-performance standard PLC launched by Kinco. It adopts a brand-new technology platform. Under the premise of ensuring high performance and high reliability, it provides Ethernet, CAN bus, and expansion module. BD board and other functions that are closer to user needs, and have obvious advantages such as faster running speed, larger storage space, and significantly improved performance, which can meet the diverse needs of users.



Main features

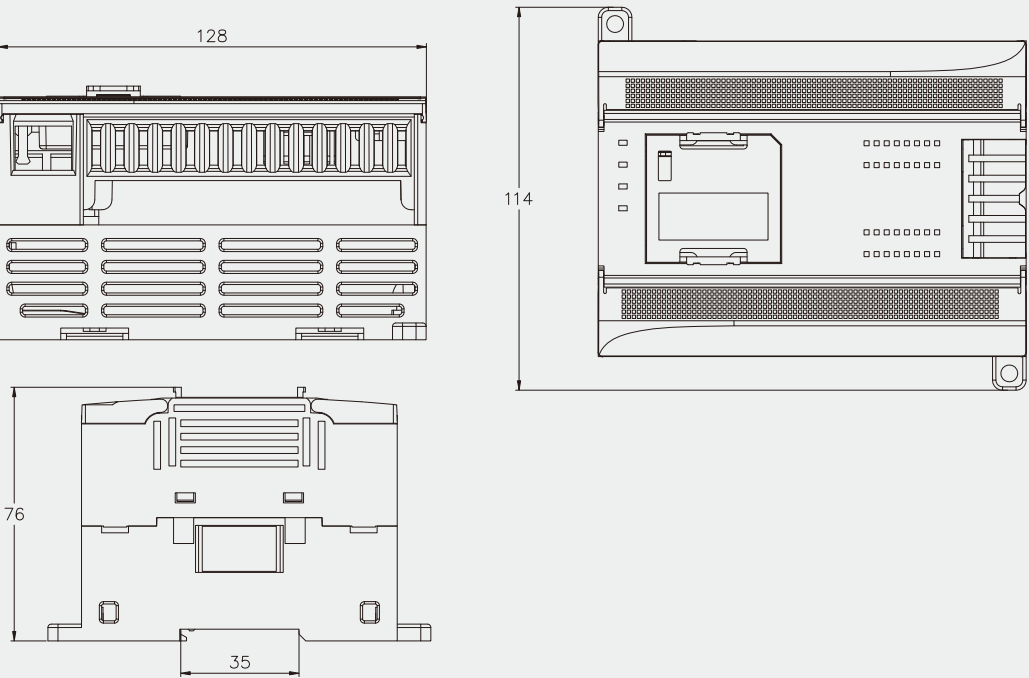
- **Ethernet**
Standard 10/100M Ethernet port,support TCP Server,TCP Client,UDP and other communication protocols,support Modbus TCP Client/Server industrial bus protocol,easy to use and powerful,suitable for application requirements in more occasions.
- **Expansion Unit**
Support expansion BD board and expansion module.
Expansion Modules are used to expand the functions of the CPU body. The expansion modules are rich in types and have a large number of points. The K6 series CPU can connect up to 14 expansion modules to form a larger-scale control system.
The expansion BD(Basic Unit Expansion Board) provides a small number of IO channels and communication ports, which can be directly plugged into the CPU module for use. Compared with the expansion module module, the BD board has fewer points but lower cost, which can further enrich the functions of the CPU module.
- **Faster calculation speed and more powerful functions**
The scan cycle of 1000 common instructions is 0.3ms, which provides 8K instructions of program storage space and 20K bytes (V area + M area) of data storage space.
Support the array function, support up to 16 arrays, each array allows up to 1024 elements (the elements can be any data type supported by KPLC). Users can use the array function to find the maximum value, minimum value, average value, sorting and other functions.
Support stack function, support up to 2 stacks, each stack allows up to 1024 elements (element can be any data typesupported by K6PLC). Users can use the stack function to achieve the corresponding requirements, and can also use the stack to further expand the data storage space.
- **CAN bus interface**
K6 can add 1 CAN bus interface through BD board.
The CAN interface supports the CANOpen master station function, allowing a maximum of 64 slave stations to be connected, and each slave station allows a maximum of 8 TPDO and 8 RPDO, and supports error control methods such as node protection and heartbeat.
The CAN interface supports the Kinco motion control protocol and provides easy-to-use positioning control commands. Users can easily connect Kinco's servo and stepper drives through the CAN bus. The Kinco motion control protocol supports up to 32 nodes.
- **High-speed pulse counter and high-speed pulse output**
K6 provides 4 high-speed pulse counters that support multiple modes of counting, the highest counting frequency of HSC0 and HSC1 is 200KHz, and the highest counting frequency of HSC2 and HSC3 is single-phase 6KHz and double-phase 2KHz.
K6 provides 4 high-speed pulse output channels, the highest output frequency of channel 0-2 is 200KHz, and the highest output frequency of channel 3 is 10KHz. All channels support PTO (pulse train, pulse + direction) and PWM (pulse width modulation) output, and the software provides PLS (PWM or PTO), positioning control instruction group, PFLO_F (follow instruction),etc.
- **Compatible with K5 series PLC**
K6 series PLCs are fully compatible with K5 functions: IO channels and power supply connections are completely consistent; K5 programs can be run directly; K5 series expansion modules can be directly connected.

CPU	Model	Specification
CPU606	K606-24DT	DC24V, DI 14*DC24V, DO 10*DC24V Communication port: 2*RS485, 1*Ethernet 1 expansion BD board can be connected 14 expansion modules can be connected
	K606-24DR	DC24V, DI 14*DC24V, DO 10*Relay Communication port: 2*RS485, 1*Ethernet 1 expansion BD board can be connected 14 expansion modules can be connected
	K606-24AT	AC100-240V, DI 14*DC24V, DO 10*DC24V Communication port: 2*RS485, 1*Ethernet 1 expansion BD board can be connected 14 expansion modules can be connected
	K606-24AR	AC100-240V, DI 14*DC24V, DO 10*Relay Communication port: 2*RS485, 1*Ethernet 1 expansion BD board can be connected 14 expansion modules can be connected
CPU608	K608-40DT	DC24V, DI 24*DC24V, DO 16*DC24V Communication port: 2*RS485, 1*Ethernet 2 expansion BD board can be connected 14 expansion modules can be connected
	K608-40DR	DC24V, DI 24*DC24V, DO 16*Relay Communication port: 2*RS485, 1*Ethernet 2expansion BD board can be connected 14 expansion modules can be connected

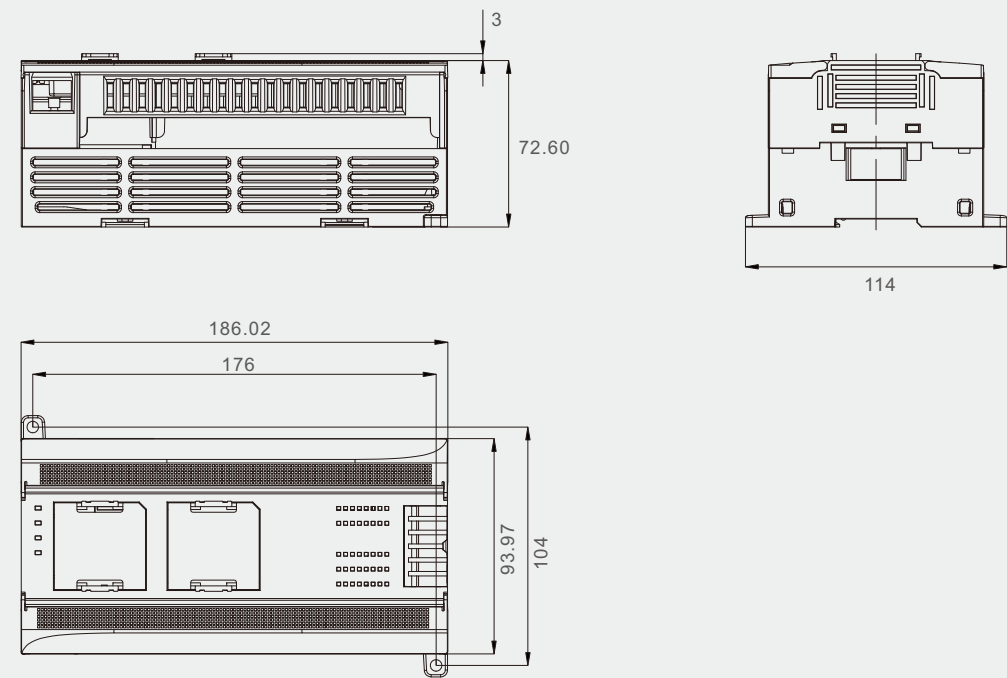
Note: CPU modules with relay output (The last letter of order No. is "R", for example K606-24AR) do not support pulse output.

Dimensional drawings

CPU606



CPU608



Parameter

Parameter	CPU606	CPU608
I/O and communication port		
Digital IO	14*DI/10*DO	24*DI/16*DO
Analog IO	--	
Connect expansion BD board	1	2
Connect expansion module	14	
Communication port	Serial port	Body: 2*RS485; BD board: 1*RS232 + 1*RS485
	CAN	Body: none; BD board: 1*CAN
	Ehternet	Body: 1*Ethernet
High-speed counter single-phase double-phase	4 HSC0 and HSC1: Up to 200KHz; HSC2 and HSC3: Up to 6KHz HSC0 and HSC1: Up to 200KHz; HSC2 and HSC3: Up to 2KHz	
High-speed output	4(The output type is relay does not support high-speed output function) PTO0--PTO2: Up to 200KHz PTO3: Up to 10KHz (Each channel requires load resistance not exceed 1.5KΩ, otherwise the maximum output frequency will not be reached)	
Edge interrupt	4, I0.0-I0.3 can be on/off interrupt.	
Memory area		
User programme	Maximum. 8K instructions supported	
User data memory	M area 4K bytes; V area 16K bytes.	
Timer	256 1ms time base: 4 10ms time base: 16 100ms time base: 236	
Counter	256	
Data back up memory	EEPROM, Maximum. 1K bytes supported.	
Retentive memory range	V area (16K bytes) + C area(Counter, 512 bytes). Lithium battery, 3 year lifetime at room temperature.	
Others		
Interrupt	2, 0.1ms time base.	
Realtime Clock	built-in, time deviation is less than 5min/month at 25°C.	
DC24V output power	300mA, Short circuit protection.	

CPU606



K606-24DT

Power supply:DC20.4~28.8V power supply
Built-in I/O points:24 I/O, DI 14*DC24V, DO 10*DC24V, transistor output
Communication port:2*RS232, 1*Ethernet
Extended communication:Yes. BD board:1*CAN or 1*RS232 + 1*RS485
Connectable expansion modules:Yes. At most 14 expansion modules
Expansion BD Slot:1
Real-time clock:Yes
Installation size(mm):128×114×76mm(L×W×H)



K606-24DR

Power supply:DC20.4~28.8V power supply
Built-in I/O points:24 I/O, DI 14*DC24V, DO 10*Relay, relay output
Communication port:2*RS232, 1*Ethernet
Extended communication:Yes. BD board:1*CAN or 1*RS232 + 1*RS485
Connectable expansion modules:Yes. At most 14 expansion modules
Expansion BD Slot:1
Real-time clock:Yes
Installation size(mm):128×114×76mm(L×W×H)



K606-24AT

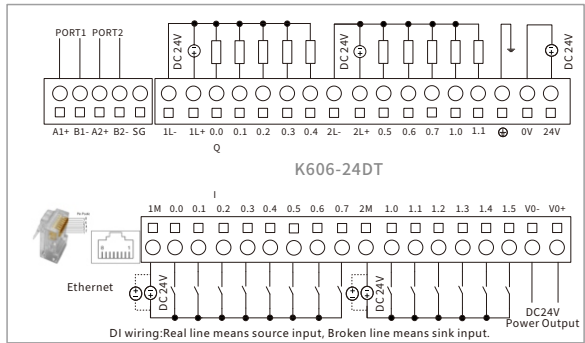
Power supply:AC100-240V power supply
Built-in I/O points:24 I/O, DI 14*DC24V, DO 10*DC24V, transistor output
Communication port:2*RS232, 1*Ethernet
Extended communication:Yes. BD board:1*CAN or 1*RS232 + 1*RS485
Connectable expansion modules:Yes. At most 14 expansion modules
Expansion BD Slot:1
Real-time clock:Yes
Installation size(mm):128×114×76mm(L×W×H)



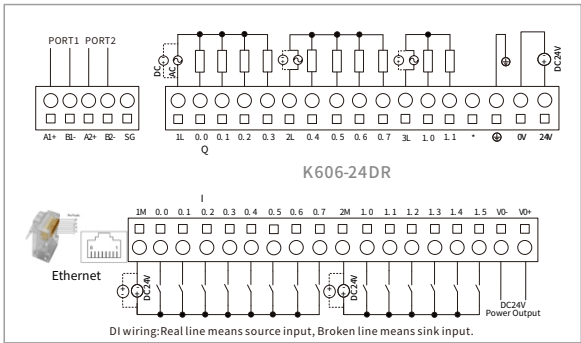
K606-24AR

Power supply:AC100-240V power supply
Built-in I/O points:24 I/O, DI 14*DC24V, DO 10*Relay, relay output
Communication port:2*RS232, 1*Ethernet
Extended communication:Yes. BD board:1*CAN or 1*RS232 + 1*RS485
Connectable expansion modules:Yes. At most 14 expansion modules
Expansion BD Slot:1
Real-time clock:Yes
Installation size(mm):128×114×76mm(L×W×H)

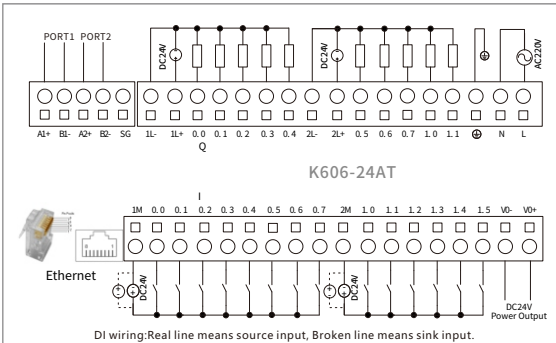
K606-24DT



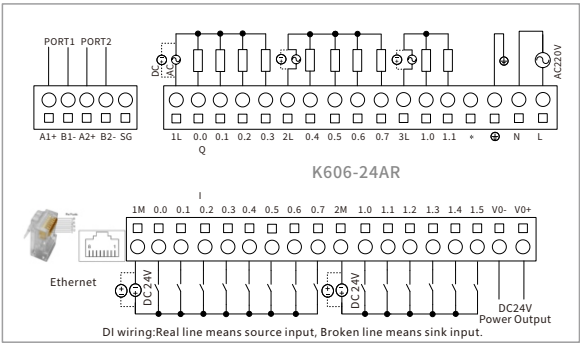
K606-24DR



K606-24AT



K606-24AR



CPU608



K608-40DT

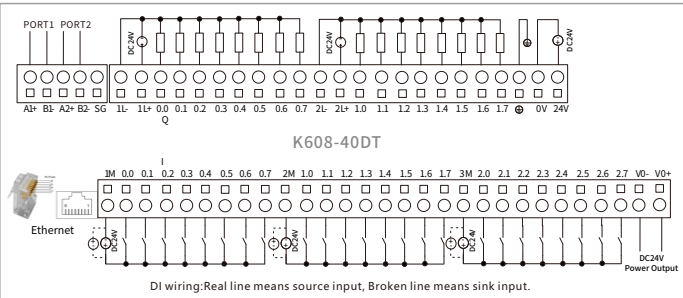
Power supply:DC20.4~28.8V power supply
Built-in I/O points:40 I/O, DI 24*DC24V, DO 16*DC24V, transistor output
Communication port:2*RS232, 1*Ethernet
Extended communication:Yes. BD board:1*CAN or 1*RS232 + 1*RS485
Connectable expansion modules:Yes. At most 14 expansion modules
Expansion BD Slot:2
Real-time clock:Yes
Installation size(mm):186×114×76mm(L×W×H)



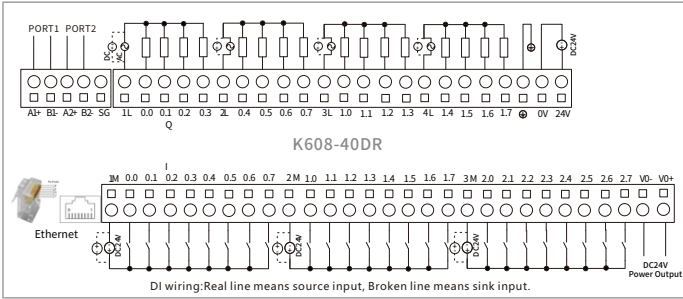
K608-40DR

Power supply:DC20.4~28.8V power supply
Built-in I/O points:40 I/O, DI 24*DC24V, DO 16*Relay, relay output
Communication port:2*RS232, 1*Ethernet
Extended communication:Yes. BD board:1*CAN or 1*RS232 + 1*RS485
Connectable expansion modules:Yes. At most 14 expansion modules
Expansion BD Slot:2
Real-time clock:Yes
Installation size(mm):186×114×76mm(L×W×H)

K608-40DT

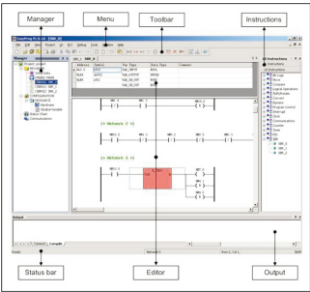


K608-40DR

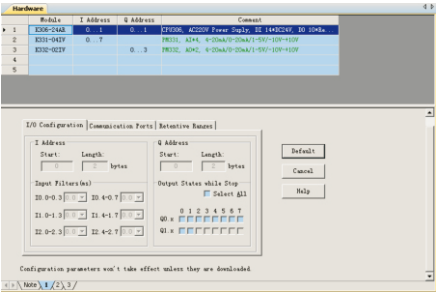


KincoBuilder is the programming software for the Kinco-K5. It complies with IEC61131-3 standard and is also compatible with PLC tradition, and its project architecture complies with the IEC61131-3 software model. It supports IL(instruction list) and LD(ladder diagram) languages, including 114 basic instructions and 420 expansion instructions. Meanwhile, it supports a number of special functions, such as interrupt (I/O interrupt, communication interrupt and time interrupt), and special I/O functions (high-speed counter, PTO/PWM output, etc.) Therefore, it is application to control applications in a diversity of fields.

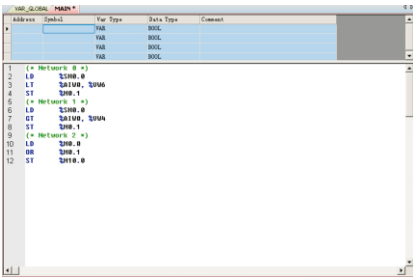
By KincoBuilder, users could monitor online, force variable, program update(3-level password protection), check diagnosis information and so on. The windows style interface facilitate users to manage program, and by workplace and tool bar to realize quick operation, for example add, delete, debugging, cross reference, print and backup.



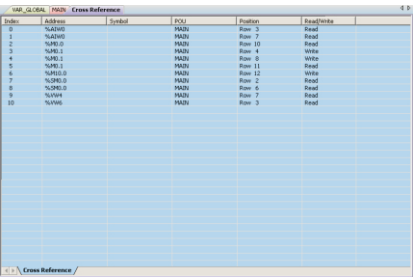
LD Editor and Online Monitoring



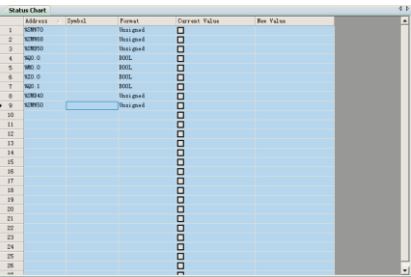
system configuration



IL Editor



Cross Reference Table



Variable Status Table

Data Type Supported by KincoBuilder

Category	Keyword	Description	Size in bits	Default Value
BOOL/bit string type	Bool	Boolean	1	false
	Byte	Bit string of length 8	8	0
	Word	16-bit string	16	0
	Dword	32-bit string	32	0
Numeric type	Int	Integer, signed	16	0
	Dint	Double integer, signed	32	0
	Real	Real	32	0.0

(KincoBuilder software is free, users could download the newest version from company website www.kinco.cn)