

K5 series, as upgraded products of K3 series, close to market, provide diverse functions and higher performance, is a kind of cost-effective micro integrated PLC (Programmable Logic Controller). Kinco-K5 CPU provides special I/O functions (high-speed counter, PTO/PWM output), CANopen master, multiple RS485 ports, integrated analog input and output channels and so on. Equipped with diverse extension modules, Kinco-K5 PLC is applicable to 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.

High-speed Counter



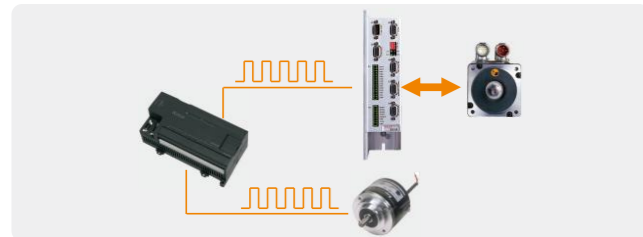
Kinco-K5 PLC provides two high-speed counters with 12 different operation modes, supports single phase frequency up to 60KHz and dual-phase (A/B phase) frequency up to 20KHz.

In different modes, each counter has its own inputs for clock, direction control, start and reset, and has a 32-bit current value and preset value.

High-speed pulse Output

Kinco-K5 CPU has two built-in pulse generators with frequency up to 200KHz, which support PTO (Pulse Train Output) or PWM (Pulse-Width Modulation).

KincoBuilder software provides absolute position, relative position, homing, jog and quick stop instructions and so on. Kinco-K5, combining with stepper or servo system, can realize position control conveniently.



CAN bus Communication Function

CPU module can provide CANopen master and free protocol function by connecting with CAN bus module K541. CANopen master function complies with Standard DS301. It supports baud rate up to 1Mbps, 72 CANopen slave stations, up to 256 TPDOs and 256 RPDOs. Connect K5 with CD/FD/JD/ED series servo via CANopen bus can realize multi-axis motion control easily with simple wiring and high reliability.

Serial Communication Function

Kinco-K5 CPU provides 1 RS232 port and at most 2 RS485 ports, provides Modbus RTU master/slave and free protocol.

Via RS485 ports, Kinco-K5 can work as Modbus RTU slave to connect with HMI, configuration software or other master station devices, as well as work as Modbus RTU master to connect with PLC, inverter, instrument, actuator. Each RS485 port support at most 32 devices to be interconnected into a network.



Edge Interrupt Function

Kinco-K5 provides edge interrupt, communication port interrupt, time interrupt, high-speed counter interrupt and so on. Interrupt routine run in real time, not affected by PLC cycle.

DI points I0.0-I0.3 on CPU body support edge interrupt function. Kinco-K5 can capture rising/falling edge of DI signal quickly.

Time base of the two ways time interrupts is 0.1ms, Kinco-K5 can meet applications of precise timing.

Soft-PID Function

Kinco-K5 provides soft-PID control function by function block(default). User can call at most 4 PID function blocks in program.

The PID function block can take AI signal value as the PV value for PID, meanwhile, send PID output value directly to AO module for output.

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 series 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
Mechanical service conditions	Pollution degree	Applicable to pollution degree 2
	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
Electromagnetic compatibility (EMC)	Shock	Half-sine, 15g peak, 11ms duration, three shocks in each direction per axis.
	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, @50Hz 0%voltage for 1 period, 40%voltage for 10 periods, 70%voltage for 20 periods. 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 10 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 10 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 10 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 10 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 10 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 10 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.



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
PM531	K523-08DT	DI 4*DC24V , DO 4*DC24V
	K531-04IV	4 analog input channels , 4-20mA/1-5V/0-20mA/0-10V
	K531-04RD	PT100, PT1000, Cu50, Resistor
PM533	K531-04TC	4 thermocouple input channels, internal/external compensation selectable, J type, K type, E type, S type
	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

Kinco-K5 provides common I/O types, main parameters of each I/O type are shown in the following tables.

DI channel parameter

Input type	Source/Sink optional
Input voltage	Rated DC24V, allowable maximum DC30V
Rated input current	3.5mA@24VDC
Minimum input voltage of logic 1	Normal channel: 11V@2.0mA; High-speed channel: 18V@2.5mA
Maximum input voltage of logic 0	5V@0.7mA
Input delay	Common channel 12 μs; High-speed channel 8 μs
<ul style="list-style-type: none"> off-to-on on-to-off 	Common channel 40 μs; High-speed channel 12 μs
Isolation between input and internal circuit	Opto-electrical isolation
<ul style="list-style-type: none"> Mode Voltage 	500VAC/1minute

DO channel parameter (Transistor Type)

Output type	Source
Output voltage	Rated DC24V. Allowable range: DC20.4V—28.8V (Consistent with power supply)
Output current per channel	Maximum 500mA @24VDC
Parallel connection of output channels	Yes
Protection function:	
<ul style="list-style-type: none"> Power supply access polarity protection Inductive load protection Short-circuit protection Output reverse polarity protection 	Yes Yes Yes Yes, allow applying reverse polarity signal at the output end no more than 10s
Isolation between output and internal circuit	Opto-electrical isolation
<ul style="list-style-type: none"> Mode Voltage 	500VAC/1minute

DO channel parameter (Relay Type)

Output type	Relay
Maximum load voltage	DC 30V/AC250V
Maximum allowable load current	2A (DC 30V/AC250V)
Output off-to-on delay	Max. 10ms
Output on-to-off delay	Max. 5ms
Expected life of the contacts	
<ul style="list-style-type: none"> Mechanical life (no-load) Electrical life (rated load) 	12,000 times/min 100 times/min
Expected life of the contacts	
<ul style="list-style-type: none"> Mechanical life (no-load) Electrical life (rated load) 	20,000,000 times (12,000 times/min) 100,000 times (6 times/min)
Output isolation	Relay
<ul style="list-style-type: none"> Mode Between coil and contact Between contacts 	2000Vrms 1000Vrms

AI channel parameter(Current/Voltage Type)

Resolution	12 bits
Measurement accuracy	0.3% F.S.
Signal form	4~20mA、1~5V、0~20mA、0~10V. Bearable maximum input voltage is DC15V
Conversion rate	About 30 times/min.
Input impedance	Current mode: <250Ω Voltage mode: >4MΩ
Anti common-mode voltage	(Signal voltage + common-mode voltage) ≤ 12V. Exceed this range, the channel will be in protection state
Status indication	The red LED of each channel indicates 4~20mA or 1~5V input signal exceeds measurement range

AO channel parameter(Current/Voltage Type)

Resolution	12 bits
Output signal accuracy	0.3% F.S.
Signal form	4~20mA、1~5V、0~20mA、0~10V
Conversion rate	About 30 times/min.
External load	Current mode: <500Ω Voltage mode: >1KΩ
Status indication	No

RTD channel parameter

Signal form	Pt100、Pt1000、Cu50、Resistor
Connection	2-wire or 3-wire
Resolution	24 bits
Measurement accuracy	Temperature ±0.5°C, Resistance ±1Ω
Input impedance	>1MΩ
Status indication	The red LED of each channel indicates input signal exceeds measurement range.

TC Channel parameter

Signal form	J type, K type, E type, S type
Compensation	Internal/ external compensation selectable by software
Resolution	24 bits
Measurement accuracy	0.1% F.S.
Input impedance	>20KΩ
Status indication	The red LED of each channels indicates input signal exceeds measurement range.

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.

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°C			
DC24V Output supply	300mA, short circuit protection	500mA, short circuit protection		

CPU504EX



K504EX-14AT

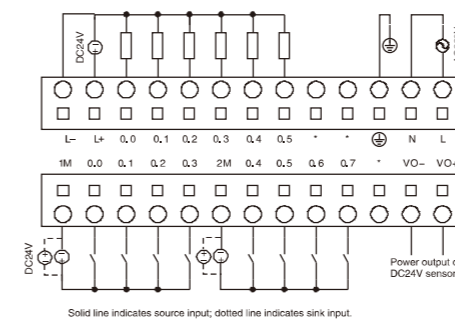
Power supply: AC85–265V power supply
 Built-in I/O points: 14 I/O, DI 8*DC24V, DO 6*DC24V, transistor output
 Communication port: 1 RS232
 Connectable expansion modules: Yes. At most 4 expansion modules
 Real-time clock: Yes
 Installation size(mm): 97 × 114 × 70 (L × W × H)



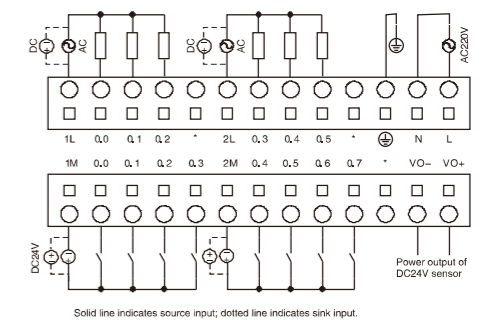
K504EX-14AR

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-14AT



K504EX-14AR



CPU504EX



K504EX-14DT

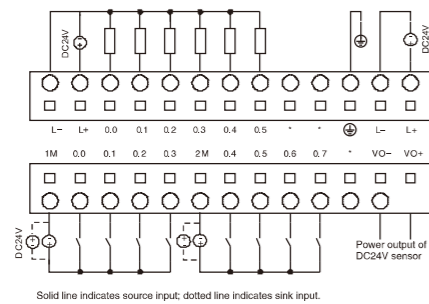
Power supply: DC20.4–28.8V power supply
 Built-in I/O points: 14 I/O, DI 8*DC24V, DO 6*DC24V, transistor output
 Communication port: 1 RS232, support programming, Modbus RTU(slave), free protocol
 Connectable expansion modules: Yes. At most 4 expansion modules
 Real-time clock: Yes
 Installation size(mm):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



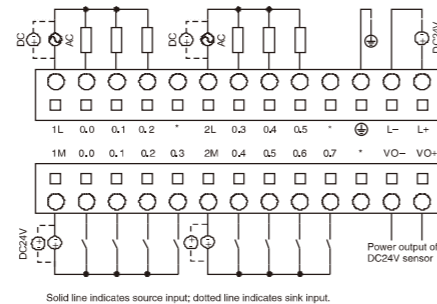
K504EX-14DR

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, support programming, Modbus RTU(slave), free protocol
 Connectable expansion modules: Yes. At most 4 expansion modules
 Real-time clock: Yes
 Installation size(mm): 97 × 114 × 70 (L × W × H)

K504EX-14DT



K504EX-14DR



CPU506



K506-24AT

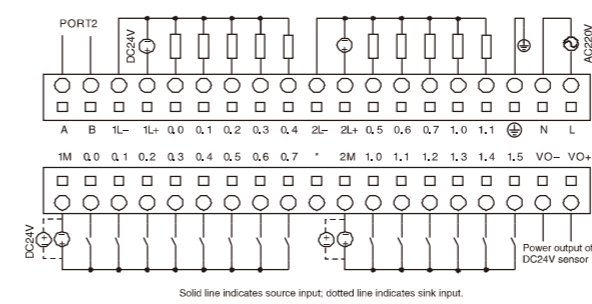
Power supply: AC85–265V power supply
 Built-in I/O points: 24 I/O, DI 14*DC24V, DO 10*DC24V, transistor output
 Communication ports: 1 RS232, 2 RS485
 Connectable expansion modules: Yes. At most 10 expansion modules
 Real-time clock: Yes
 Installation size(mm): 125 × 114 × 70 (L × W × H)



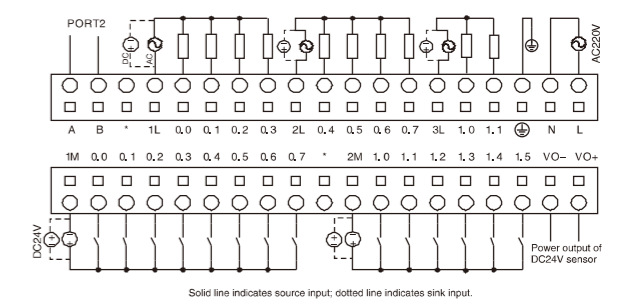
K506-24AR

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)

K506-24AT



K506-24AR



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)

CPU506EA



K506EA-30AT

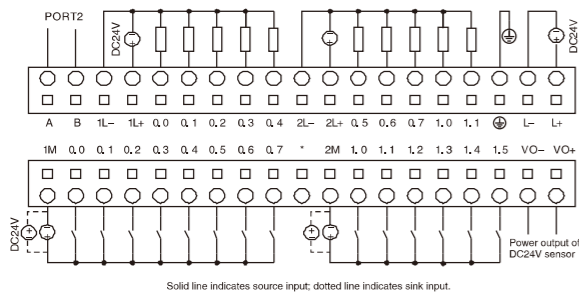
Power supply: AC85–265V power supply
 Built-in I/O points: 30 I/O, DI 14*DC24V, DO 10*DC24V, DO is transistor output,
 AI 4*IV, AO 2*IV,
 AI/AO support 4–20mA/1–5V/0–20mA/0–10V signal forms
 Communication port: 1 RS232, 2 RS485
 Connectable expansion modules: Yes. At most 10 expansion modules
 Real-time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



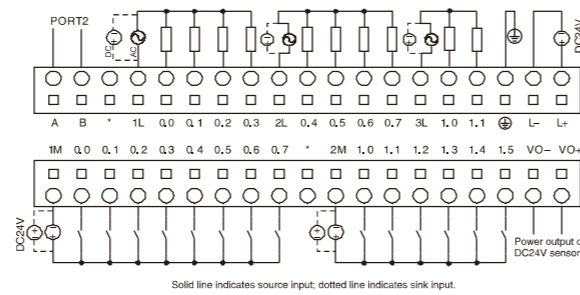
K506EA-30DT

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)

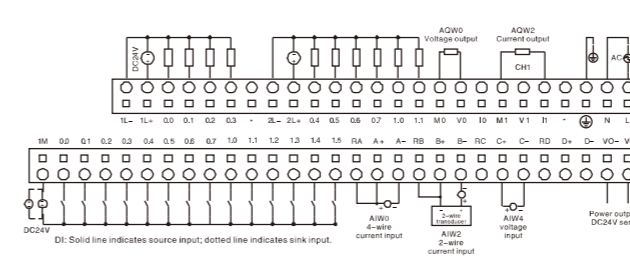
K506-24DT



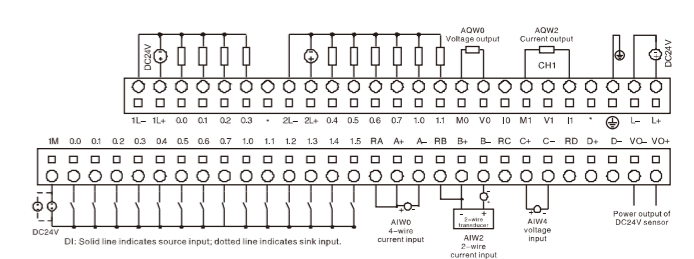
K506-24DR



K506EA-30AT



K506EA-30DT



CPU508



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 10 expansion modules
 Real-time clock: Yes
 Installation size(mm): 200 × 114 × 70 (L × W × H)

CPU508



K508-40DT

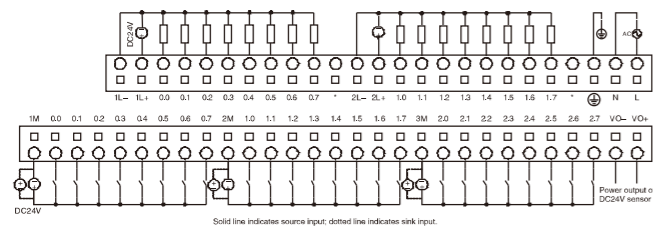
Power supply: DC20.4–28.8V power supply
 Built-in I/O points: 40 I/O, DI 24*DC24V, DO 16*DC24V, transistor output
 Communication port: 1 RS232, 2 RS485
 Connectable expansion modules: Yes. At most 10 expansion modules
 Real-time clock: Yes
 Installation size(mm): 200 × 114 × 70 (L × W × H)



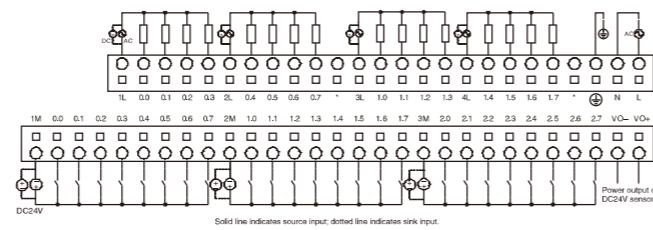
K508-40DR

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)

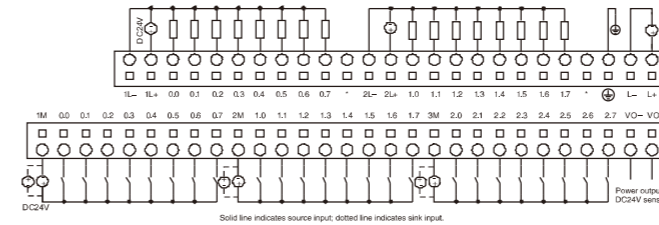
K508-40AT



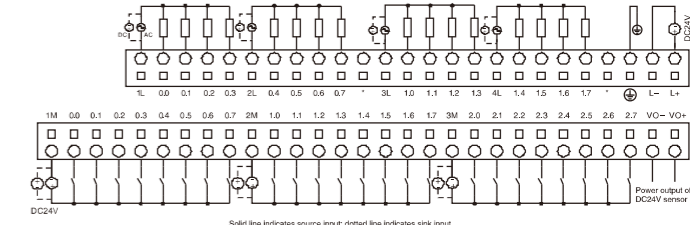
K508-40AR



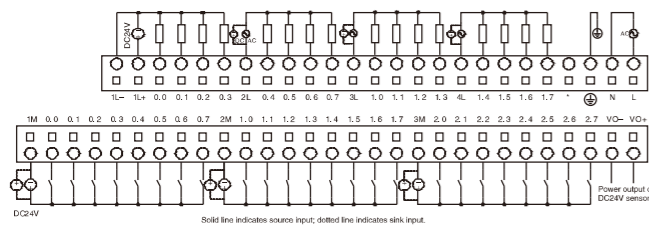
K508-40DT



K508-40DR



K508-40AX



Digital Input Module PM521



K521-08DX

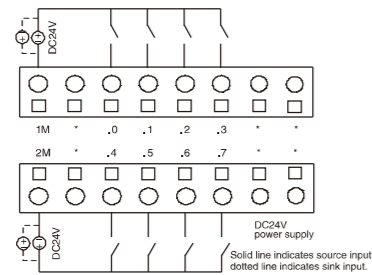
Input points: 8, divided into 2 groups, each group with 4 channels
 Input type: Source (common-cathode)/sink (common-anode)
 Input voltage: Rated DC24V, voltage range of logic "1" is DC11 ~ 30V
 Isolation mode: Opto-electrical isolation between input signal and internal circuit, isolation voltage 500VAC/1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



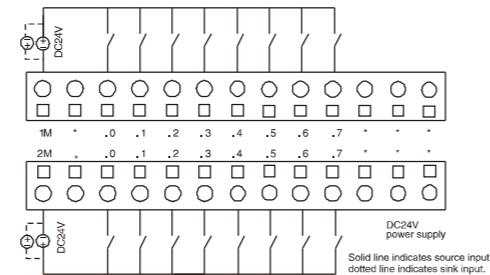
K521-16DX

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-electrical isolation between input signal and internal circuit, isolation voltage 500VAC/1 min
 Signal indication: Separated LED indicates for each channel
 Module width: 75mm

K521-08DX



K521-16DX



Digital Output Module PM522



K522-08DT

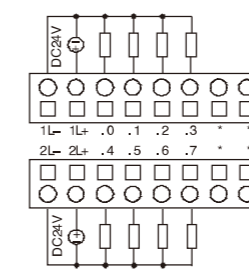
Output points: 8, divided into 2 groups, each group with 4 channels
 Output type: source (common-cathode)
 Output voltage: Rated DC24V, max. output current of each channel is 500mA
 Circuit protection: Power supply access polarity protection, output short-circuit protection, inductive load protection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



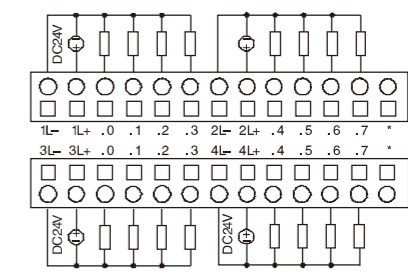
K522-16DT

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-electrical 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



Digital Output Module PM522



K522-08XR

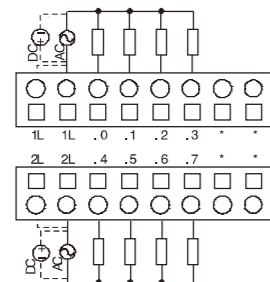
Output points: 8, divided into 2 groups, each group with 4 channels.
 Output type: source (common-cathode).
 Load voltage: Max. DC30V/AC250V, max. load current of each channel is 2A.
 Isolation mode: Opto-electrical isolation between coil and contact,
 isolation voltage 2000Vrms.
 Signal indication: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



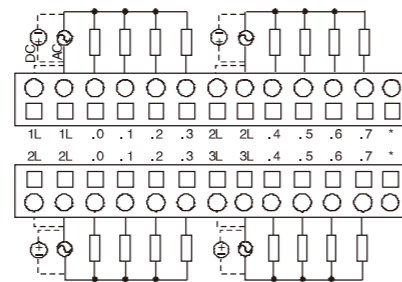
K522-16XR

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

K522-08XR



K522-16XR



Digital Input/output Module PM523



K523-08DR

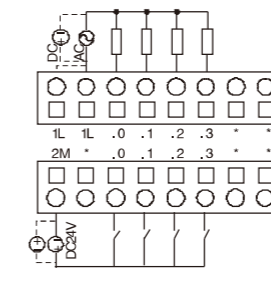
Input point: 4, totally classified into 1 group
 Input type: Source (common-cathode)/sink (common-anode)
 Input voltage: Rated DC24V, voltage range of logic "1" is DC11 ~ 30V
 Output point: 4, totally classified into 1 group
 Output type: Relay
 Load voltage: Max. DC30V/AC250V, max. load current of each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



K523-16DR

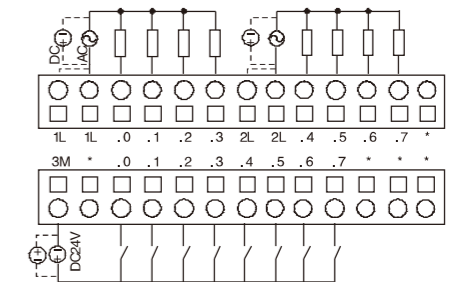
Input point: 8, totally classified into 1 group
 Input type: Source (common-cathode)/sink (common-anode)
 Input voltage: Rated DC24V, voltage range of logic "1" is DC11 ~ 30V
 Output point: 8, divided into 2 groups, each group with 4 channels
 Output type: Relay
 Load voltage: Max. DC30V/AC250V, max.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

Digital Input/output Module **PM523**



K523-08DT

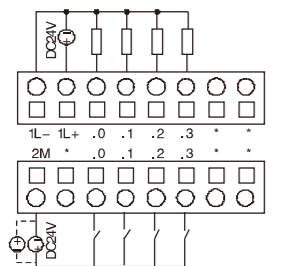
I/O point: 8, DI 4*DC24V, DO 4*DC24V
 Input type: Source (common-cathode)/sink (common-anode)
 Input voltage: Rated DC24V, voltage range of logic "1" is DC11 ~ 30V
 Output type: Transistor
 Output voltage: Rated DC24V, max. output current of each channel is 0.5A
 Isolation mode: Opto-electrical isolation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



K523-16DT

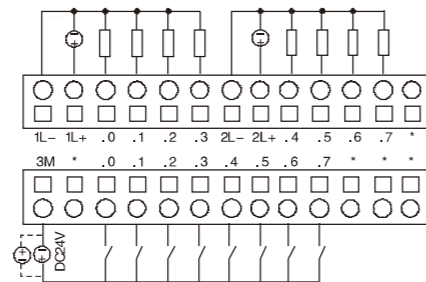
I/O point: 16, DI 8*DC24V, DO 8*DC24V
 Input type: Source (common-cathode)/sink (common-anode)
 Input voltage: Rated DC24V, voltage range of logic "1" is DC11 ~ 30V
 Output type: Transistor
 Output voltage: Rated DC24V, max. output current of each channel is 0.5A
 Isolation mode: Opto-electrical isolation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

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: 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

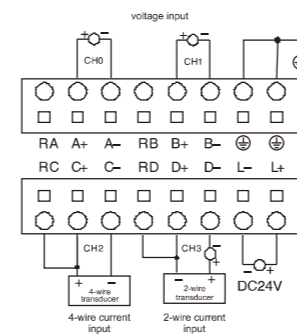
Input channel: 4
 Input signal: Pt100, Cu50, Pt1000, Cu100, Resistor are selectable, 2-wire or 3 wire
 Measurement range: Pt 100 -200~850°C, Cu50 -50~150°C, Pt1000 -50~300°C, Resistor 0~2000 Ω
 Measurement accuracy: Temperature ±0.5°C, Resistance ±1 Ω
 Parameter configuration: Independent parameter configuration 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



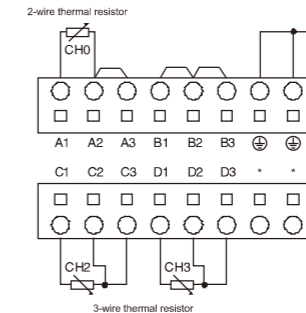
K531-04TC

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

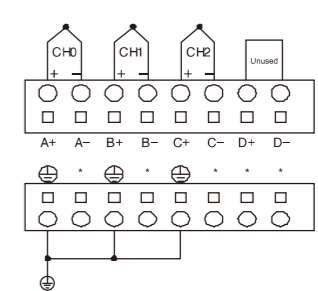
K531-04IV



K531-04RD



K531-04TC

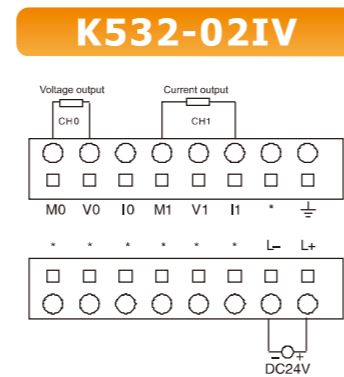


Analog Output Module **PM532**



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

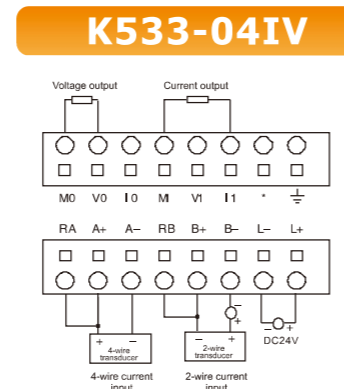


Analog Input/output Module **PM533**



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



CAN Communication Module **SM541**



K541

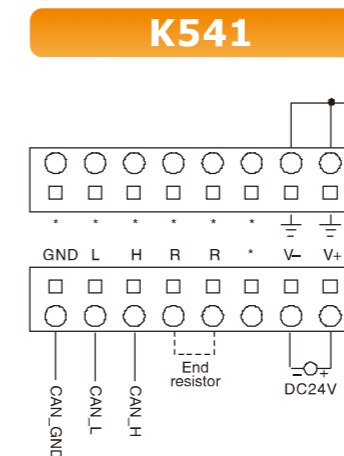
Function: CANopen master station and CAN free protocol communication
 Communication baudrate: Support 10K~1Mbps
 Electrical isolation: Power supply, communication circuit are separated from external, Isolation voltage is max. 2500VAC/1 min.
 Signal indication: Separated LED indicates power, working status, 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 configurate 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.



Expansion Power Supplier Module PS580

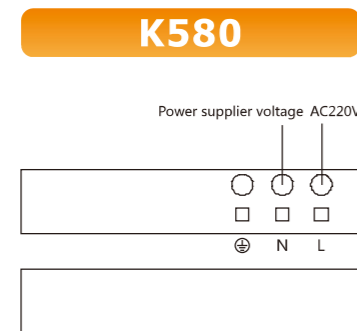


K580

Voltage: AC85–265V
 Output rated current: 5V 1A/24V 250mA
 Signal display: PW light will be on when the power supplier 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.



A "Product name" is determined according to the following principle:

Module type + 5 + Sub-type + Serial number

Where:

Module type: expressed in the following English letters:

- CPU** main control module
- PM** expansion I/O module
- SM** expansion function module
- SW** software
- AS** accessories
- PS** expansion Power Supplier Module

5: indicates Kinco-K5 series compact and integrated PLCs.

Sub-type: One of digits 0~9 is used to indicate the sub-type of a module.

- 0** CPU module
- 1** Resered
- 2** Digital data module
- 3** Analog data module
- 4** Communication module
- 6** System software
- 7** Accessories
- 8** Power module

Serial number: One of digits 0~9 is used to indicate the serial number of a sub-type. The serial numbers in each sub-type are defined as follows:

CPU module
4 indicates the CPU has 14 I/O channels
6 indicates the CPU has 24 I/O channels
8 indicates the CPU has 40 I/O channels

Digital data module
1 indicates digital input module
2 indicates digital output module
3 indicates mixed digital input/output module

Analog data module
1 indicates analog input data
2 indicates analog output data
3 indicates mixed analog input/output module

Communication module
0 indicates serial communication module
1 indicates CAN bus communication module

System software
0 indicates programming software

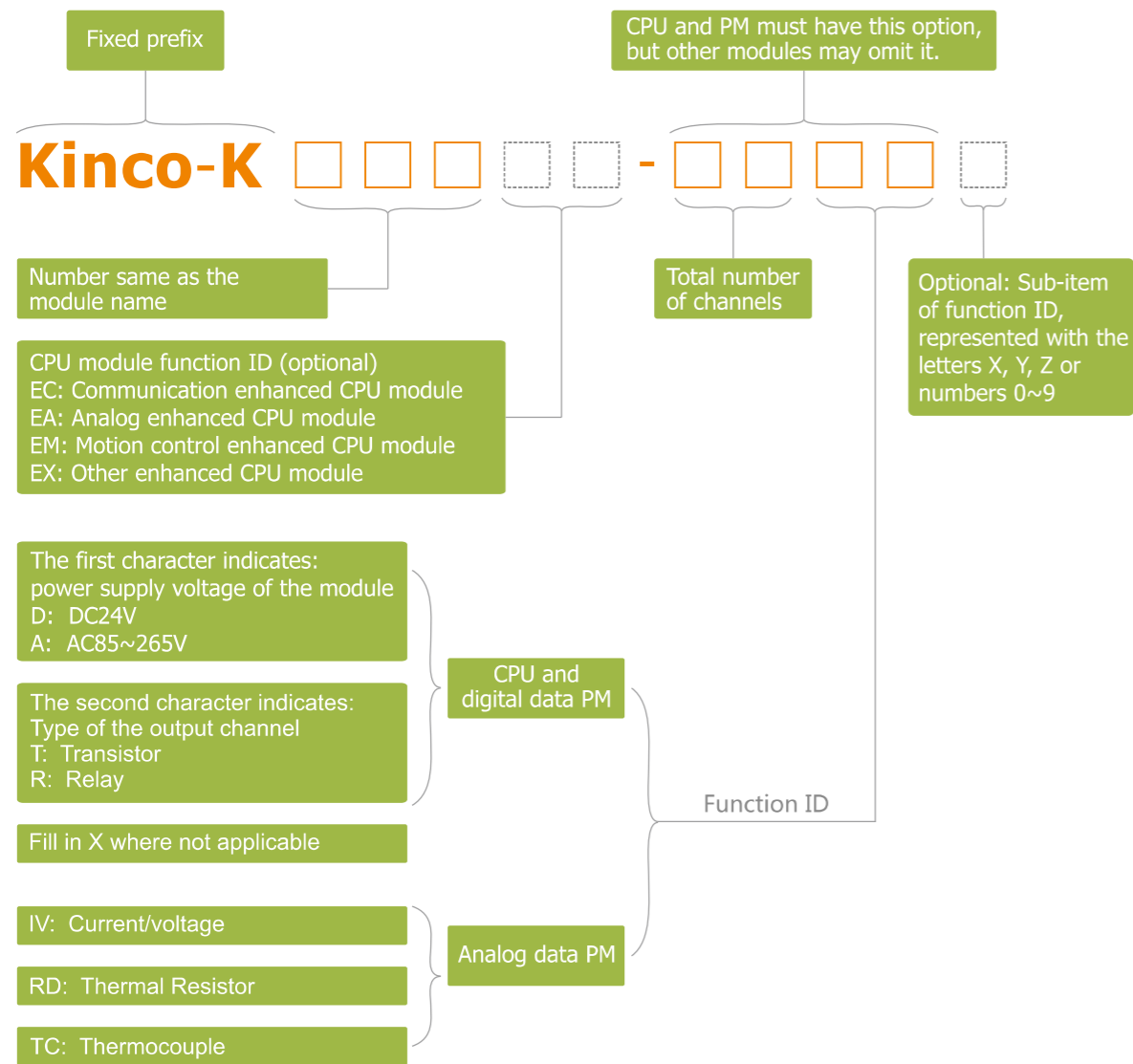
Software and accessories
0 indicates programming cable

Based on the above principle, **CPU506** indicates a CPU module with 24 I/O channels; **PM521** indicates an expansion digital input module; **AS360** indicates the KincoBuilder programming software, and so on.

Different from the "product name", each product(module) has a unique"order number". To order, a user only needs to tell us the order number for the necessary product. The "order number" of a product is defined according to the following principles:

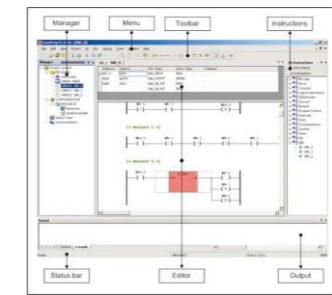
Order number:

Kinco-K + Module ID + Feature Code

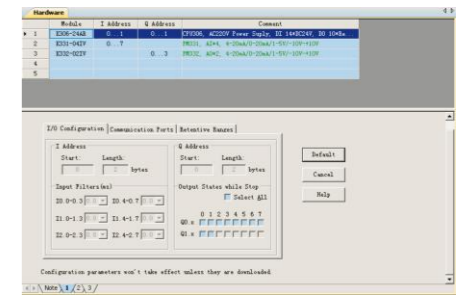


KincoBuilder is the programming software for the Kinco-K5. It complies with IEC61131-3 standard and is also compatible with PLC tradition, and its project architecture complies with the IEC61131-3 software model. It supports IL(instruction list) and LD(ladder diagram) languages, including 114 basic instructions 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.

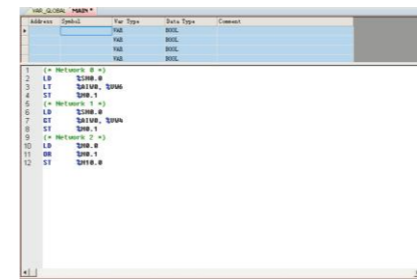
By KincoBuilder, users could monitor online, force variable, program update(3-level password protection), check diagnosis information and so on. The windows style interface facilitate users to manage program, and by workplace and tool bar to realize quick operation, for example add, delete, debugging,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



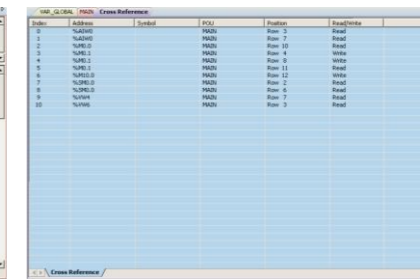
LD Editor and Online Monitoring



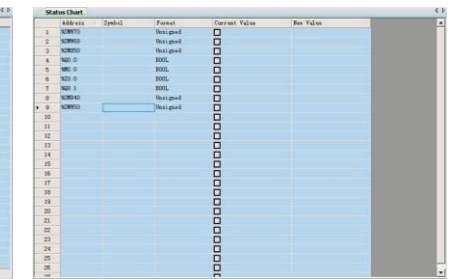
Hardware Configuration



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)

Based on the above principles, **Kinco-K506-24DT** indicates a CPU module with DC24V power supply and 24 I/O channels (where the output channel type is a transistor), and **Kinco-K521-08DX** indicates an expansion module with 8*DC24V digital input channels.