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K1E04-2011

Kinco

Programmable Logic Controller

Kinco PLC Catalog

- -K2 PLC
- -KS PLC
- -KW PLC
- -HP PLC with Built-in HMI
- -K5 PLC

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Overview of Kinco K2 PLC

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 supplier.
- 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(1 multiplication and 4 multiplication).
- 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.

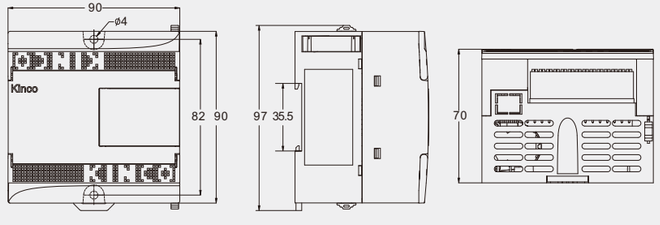
Parameter of Kinco K2 PLC

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	

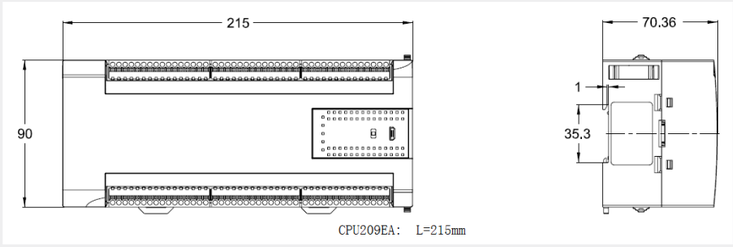
Mechanical Dimensions (Unit : mm)

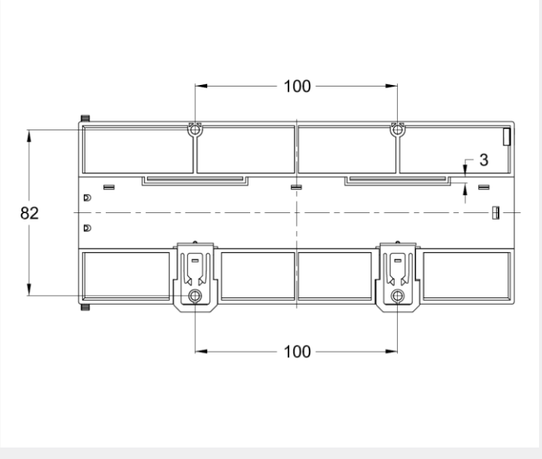
CPU205



Dimension of Kinco K2 PLC

CPU209





CPU204

K204ET-16DT

Power supply：DC24V

Built-in /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，

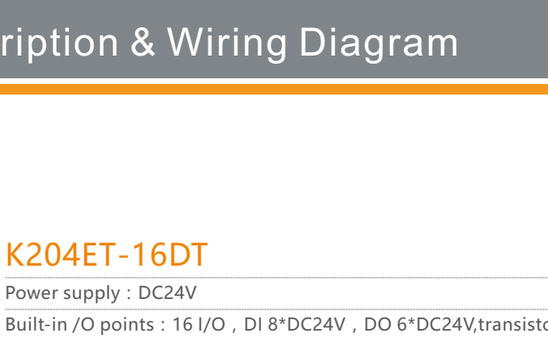
Connectable expansion modules：No

Real-time clock：Yes, deviation less than 5 min/month at 25℃

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



Gvj gtpgv

DI wiring:
Real line means source input, Broken line means sink input.

Model Description & Wiring Diagram

CPU205

K205-16DT

Power supply：DC24V

Built-in /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℃

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 /O points：16 I/O，DI 6*DC24V，DIO 4*DC24V，DO 6*Relay,relay output

Communication ports：Micro USB2.0, 2 RS485，

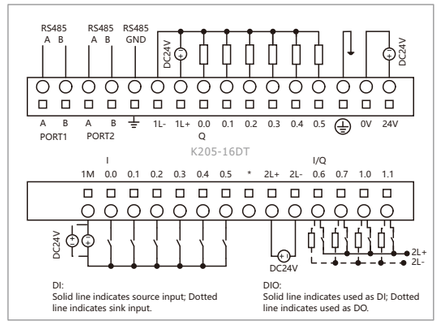
Connectable expansion modules：No

Real-time clock：Yes, deviation less than 5 min/month at 25℃

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

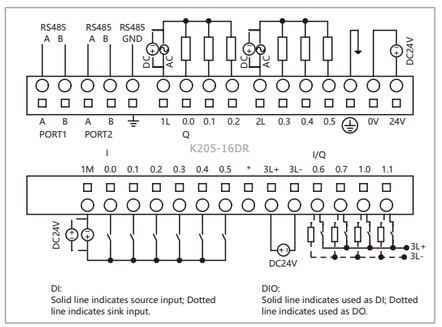
K205-16DT



DI:
Solid line indicates source input; Dotted line indicates sink input.

DIO:
Solid line indicates used as DI; Dotted line indicates used as DO.

K205-16DR



DI:
Solid line indicates source input; Dotted line indicates sink input.

DIO:
Solid line indicates used as DI; Dotted line indicates used as DO.

CPU205

K205EX-22DT

Power supply：DC24V

Built-in /O points：22 I/O， DI 8*DC24V，DIO 6*DC24V，DO 8*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℃

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

K205EA-18DT

Power supply：DC24V

Built-in /O points：18 I/O， DI 8*DC24V，DO 8*DC24V,transistor output,1 AI,1 AO

Communication ports：Micro USB2.0, 2 RS485，

Connectable expansion modules：No

Real-time clock：Yes, deviation less than 5 min/month at 25℃

Memory area：User program memory--Max 4K steps；

User data memory--M area 1KB，V area 4KB；

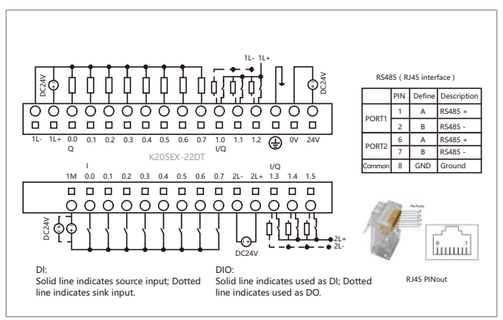
Data backup characteristic--E2PROM,448 bytes；

Data retention characteristic--4K bytes.Lithium battery，

3 years at normal temperature

Installation size(mm)(L×W×H)：90×97×70mm

K205EX-22DT



RS485 (RJ45 interface)

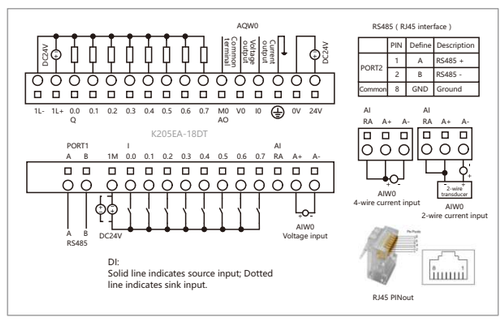
	PIN	Define	Description
PORT1	1	A	RS485 +
	2	B	RS485 -
PORT2	6	A	RS485 +
	7	B	RS485 -
Common	8	GND	Ground

RJ45 PINout

DI:
Solid line indicates source input; Dotted line indicates sink input.

DIO:
Solid line indicates used as DI; Dotted line indicates used as DO.

K205EA-18DT



RS485 (RJ45 interface)

	PIN	Define	Description
PORT2	1	A	RS485 +
	2	B	RS485 -
Common	8	GND	Ground

RJ45 PINout

DI:
Solid line indicates source input; Dotted line indicates sink input.

Model Description & Wiring Diagram

CPU209

K209EA-50DX

Power supply：DC24V

Built-in /O points：50 I/O， DI 22*DC24V，DO 8*DC24V+12*Relay，6*AI，2*AO

Communication ports：Micro USB2.0, 2 RS485，1 RS232

Connectable expansion modules：No

Real-time clock：Yes, deviation less than 5 min/month at 25℃

Memory area：User program memory--Max 4K steps；

User data memory--M area 1KB，V area 4KB；

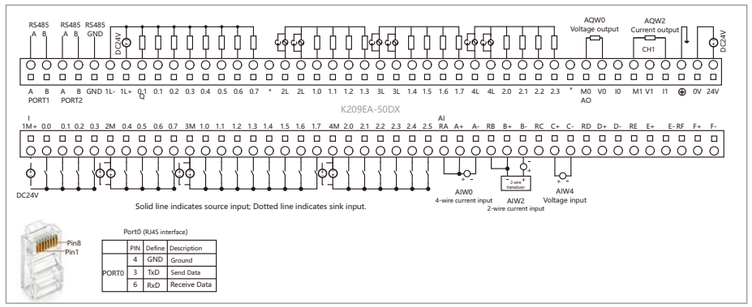
Data backup characteristic--E2PROM,448 bytes；

Data retention characteristic--4K bytes.Lithium battery，

3 years at normal temperature

Installation size：215×90×70.36mm(mm)(L×W×H)

K209EA-50DX



Port0 (RJ45 interface)

	PIN	Define	Description
PORT0	4	GND	Ground
	3	TxD	Send Data
	6	RxD	Receive Data

K209EA-50DX

CPU209

K209M-56DT

Power supply：DC24V

Built-in /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,

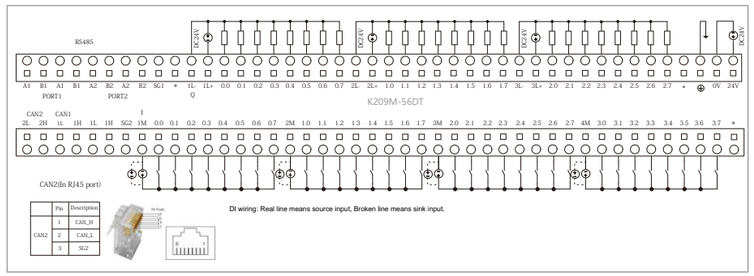
permanent storage.

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 PLCs are small type PLCs, slim shape and high performance.

Based on the rich functions, high performance and high reliability of K5/K2 series, KS series adopts 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.

Mean 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							
	DC 24V	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 and dual-phase(A/B phase)	3*200KHz 1*10KHz	1*RS232，1*RS485 Max 115.2kbps	
	KS105C1-16DT				Not support			1*RS232，1*RS485 Max 115.2kbps，1*CAN	
	KS105C2-16DT				14			1*RS232，1*RS485 Max 115.2kbps，2*CAN	

Expansion module

Expansion module								
Name	Order no.	Description						
	DC 24V	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*None				
PM122	**KS122-14DT**		None	14*None				
PM123	**KS123-14DR**		8	6*None				
PM133	**KS133-06IV**		None	None	4	2		
PM131	**KS131-04RD**		4 thermal resistor input channel，PT100、PT1000、Cu50、R					

CPU101

KS101M-04DX

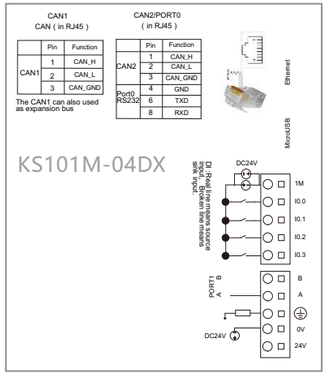
Power supply：DC24V
Built-in /O points：4*DI
Communication ports：Micro USB2.0, 1 Ethernet, 1*RS232, 1*RS485, 1*CAN，1*expansion port(also be CAN interface at the same time, support CAN free communication).
Connectable expansion modules：Yes.At most 14 expansion modules
Real-time clock：Yes, deviation less than 5 min/month at 25℃
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

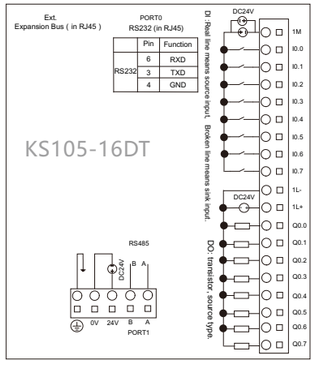
KS105-16DT

Power supply：DC24V
Built-in /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℃
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

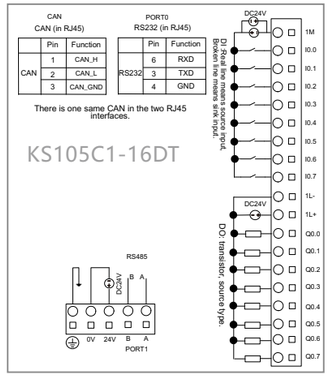
KS105C1-16DT

Power supply：DC24V
Built-in /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℃
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)

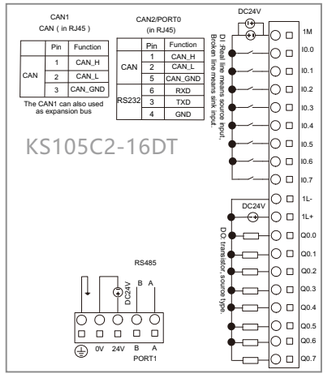
KS105C2-16DT

Power supply：DC24V
Built-in /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℃
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)

KS105C1-16DT



KS105C2-16DT



Expansion Module

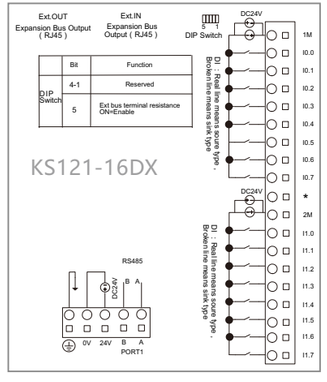
KS121-16DX

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)

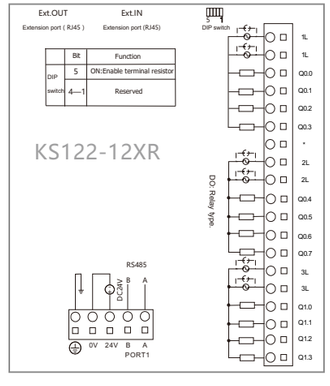
KS122-12XR

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)

KS121-16DX



KS122-12XR



KS Series Expansion module Model Description & Wiring Diagram

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)

Expansion Module

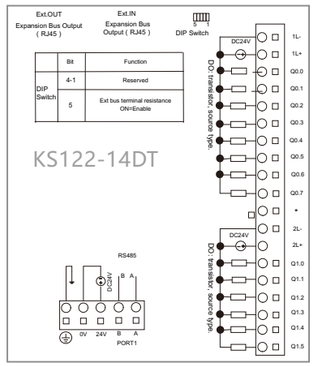
KS131-04RD

Power supply：DC24V
Input channel：4
Input signal：Pt100、Pt1000、Cu50、Resistor are selectable，2 wire or 3wire
Measurement range：Pt100 -200~850℃、Cu50 -50~150℃、Pt1000 -50~300℃、Resistorce 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)

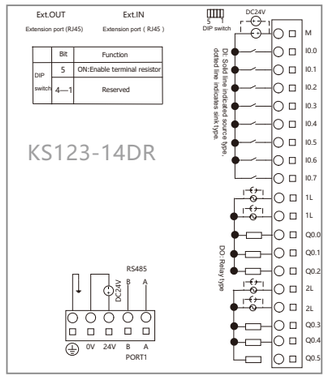
KS133-06IV

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)

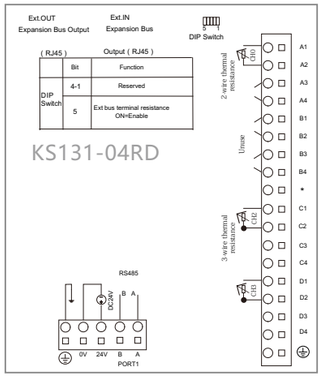
KS122-14DT



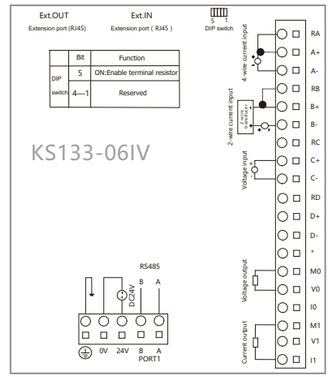
KS123-14DR



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.

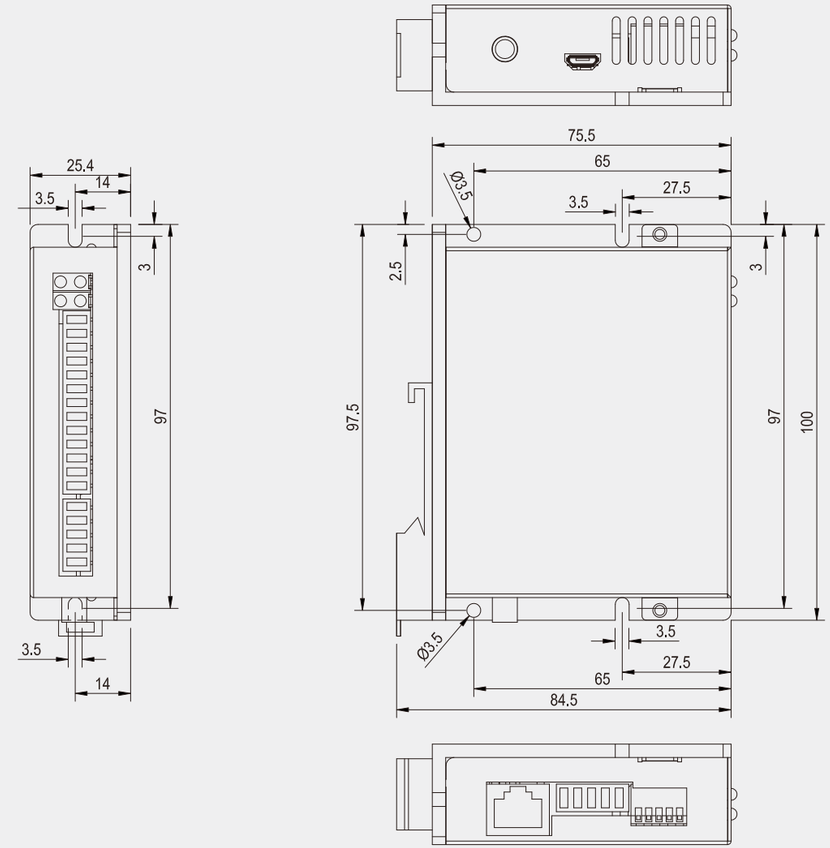
Technical Specifications

Series	Order no.	Specification					
		Supply voltage	IO	Port	Wireless band	Number of expansion modules	Installation size(mm)
KW1	**KW103LF-12DT***	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)	410-490MHz	Up to 14	100*84.5*25.4
	KW103HF-12DT*				850-930MHz		
KW2	**KW203-12DT-R2**				2.4GHz		

Note : With * means coming soon in the table.

Mechanical Dimensions (Unit : mm)

CPU103&203



CPU103

KW103LF-12DT*

Power supply：DC24V（DC20.4V - DC28.8V）	
Built-in /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 410-490MHz	
Wireless transmission rate：0.22 - 62.5Kbps	
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℃	
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	

Note：With * means coming soon in the table.

KW Series CPU Model Description

CPU103

KW103HF-12DT*

Power supply：DC24V（DC20.4V - DC28.8V）	
Built-in /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 850-930MHz	
Wireless transmission rate：0.22 - 62.5Kbps	
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℃	
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	

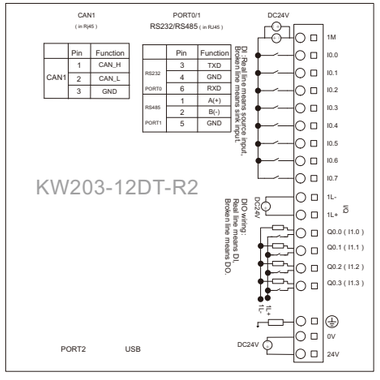
Note：With * means coming soon in the table.

CPU203

KW203-12DT-R2

Power supply：DC24V（DC20.4V—DC28.8V）
Built-in /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℃
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 HP series product combines PLC and HMI, is integrated product with high cost-effective.
With powerful functions, high performance and high reliability, the optimized hardware design of HP product save the wirings and communication connection between HMI and PLC. It is easy to use and saves installation space.

Mean features

- **PLC and HMI integration, with mulitple I/O and analog , tiny space for installation, With highly cost-effective.**
  4.3" display, 9*DI/9*DO(Transistor type), 2*AI, dimensions 132*102*40.1mm,
  7" display, 16*DI/14*DO(Transistor type), 2*AI, 1*AO, dimensions 204*150*38.55mm.
- **USB Programming port**
  HMI-PLC provides MicroUSB2.0 port for programming
- **High speed Counter**
  HP043 provides 4 high speed counters.HP070 provides 2 high speed counters.All high speed counter can support maximum 32 PV and support 32 “CV=PV” interrupts.High speed counter supports multiple modes: single phase, CW/CCW,AB phase (1 multiplication and 4 multiplication). HSC0 and HSC1 can support up to 50KHz (Both single phase and AB phase).HSC2 and HSC3 can support up to 20KHz for single phase and 10 KHz for AB phase.
- **High speed output**
  HP043 provides 3 high-speed pulse output channels, HP070 provides 2 high-speed pulse output channels, respectively Q0.0 Q0.1 and Q0.4, all support PTO (pulse train) and PWM (pulse width modulation) mode output. Q0.0 and Q0.1 support maximum 50KHz, and Q0.4 supports maximum 10KHz.
- **Serial communication port**
  HP043-20DT provides 1*RS485 serial communication port, PORT1 , baut rate up to 115.2k.
  HP043-20DTC&HP070-33DT provides 2*RS485 serial communication ports,PORT1&PORT2 , baut rate up to 115.2k. PORT1 support Programming port、Modbus RTU master and slave、free protocol. PORT2 support Modbus RTU master and slave、free protocol.
- **Touchable display terminal with powerful functions.**
  65536 color display, USB Host, support large capacity data storage, using Kinco HMI programming software, with rich functions.

Parameter

CPU		HP043		HP070
Order no.PLC		HP043-20DT	HP043-20DTC	HP070-33DT
PLC Specification	Supply voltage	DC 24V	DC 24V	DC 24V
	DI	9	9	16
	DO	9*Transistor	9*Transistor	14*Transistor
	AI	2*AI (0-10V)	2 cold junction internal compensationor external compensation is optional , J type, K type, E type, S type	2*IV
	AO	none	none	1*IV
	High speed counter	single phase , 2*Max 50KHz 2*Max 20KHz Two phase , 2*Max 50KHz 2*Max 10KHz	single phase , 2*Max 50KHz 2*Max 20KHz Two phase , 2*Max 50KHz 2*Max 10KHz	2*Max 50KHz
	High speed output	2*Max 50KHz 1*Max 10KHz	2*Max 50KHz 1*Max 10KHz	2*Max 50KHz
	Port	1*RS485Max 115.2kbps	2*RS485Max 115.2kbps	2*RS485Max 115.2kbps
	Number of expansion modules	no expansion	no expansion	up to 8
	Dimensions(mm)	132*102*40.1mm	132*102*40.1mm	204*150*38.55mm
HMI Specification	Display	4.3"" TFT(16:9W)	4.3"" TFT(16:9W)	7" TFT
	Color	65536 Colors	65536 Colors	65536 Colors
	Resoluti on	480*272	480*272	800*480
	Backlight	LED	LED	LED
	Brightness	250cd/m2	250cd/m2	300cd/m2
	Touch Panel	4-wire precision resistance network	4-wire precision resistance network	4-wire precision resistance network
	Backlight life	50000 hours	50000 hours	50000 hours
	Memory	128M FLASH + 32M SDRAM	128M FLASH + 32M SDRAM	128M FLASH + 32M SDRAM
	Recipe memory & RTC	256KB	256KB	256KB+RTC
	Expandable memory	1 USB Host	1 USB Host	1 USB Host
	Program download	1 USB	1 USB	1 USB

Parameter of Kinco HP

HP043-20DT

Power supply：DC24V
Built-in /O points：20 I/O， DI 9*DC24V，DO 9*DC24V, transistor output, 2*AI (0-10V)
Communication port：USB2.0, 1*RS485
Connectable expansion modules：No
Real-time clock：Yes, deviation less than 5 min/month at 25℃
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
Program download port：2 USB (PLC USB&HMI USB)
Display size：4.3"TFT (16：9W)
Display color：65536 colors
Resolution：480*272
Backlight：LED
Luminance：250cd/m2
LCD life：50000 hours
Touch Panel：4-wire precision resistance network
Memory：128M Flash+32M DDR
Recipe memory：256KB
External storage：1 USB Host
Outline size(mm) (L*W*H)：132*102*40.1mm
Installation opening size：119*93mm

HP043-20DTC

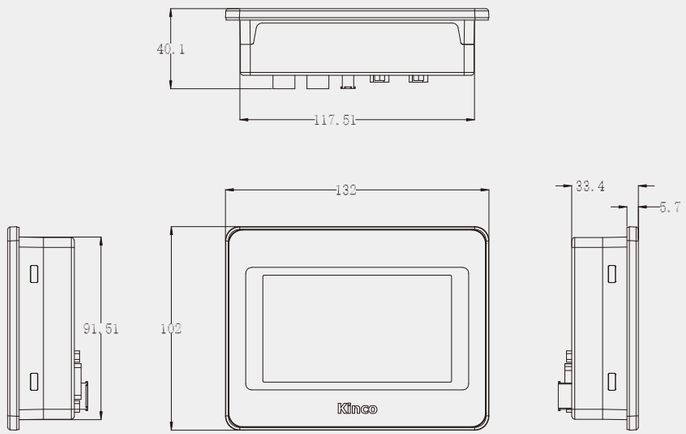
Power supply：DC24V
Built-in /O points：20 I/O， DI 9*DC24V，DO 9*DC24V, transistor output
2*AI (J type,K type,E type,S type,Internal/external compensation selectable)
Communication port：USB2.0，2*RS485
Connectable expansion modules：No
Real-time clock：Yes, deviation less than 5 min/month at 25℃
Memory area：User 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
Program download port：2 USB (PLC USB&HMI USB)
Display size：4.3"TFT (16：9W)
Display color：65536 colors
Resolution：480*272
Backlight：LED
Luminance：250cd/m2
LCD life：50000 hours
Touch Panel：4-wire precision resistance network
Memory：128M Flash+32M DDR
Recipe memory：256KB
External storage：1 USB Host
Outline size(mm) (L*W*H)：132*102*40.1mm
Installation opening size：119*93mm

HP070-33DT

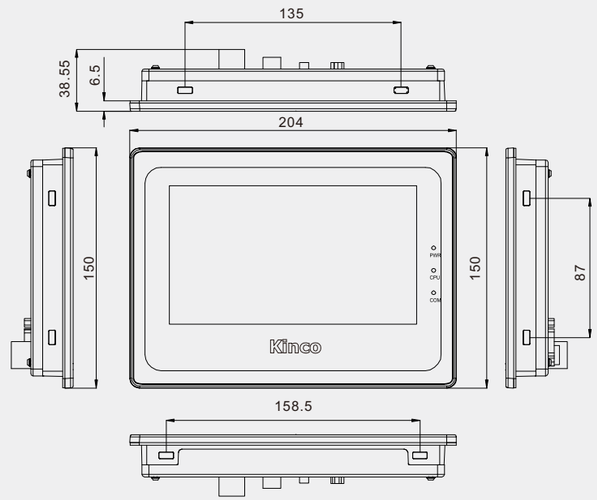
- Power supply：DC24V
- Built-in /O points：33 I/O， DI 16*DC24V，DO 14*DC24V, transistor output, AI 2*IV, AO 1*IV
- Communication port：USB2.0, 2*RS485
- Connectable expansion modules：No
- Real-time clock：Yes, deviation less than 5 min/month at 25℃
- Memory area：User program memory--Max 4K steps；
- User data memory--M area 1KB，V area 4KB；
- Data backup characteristic--E2PROM,448 bytes；
- Data retention -- V area ：VB0-VB1023 1K bytes ；
- C area：C0-C63.Lithium battery, 3 years at room temperature
- Program download port： USB2.0
- Display size：7" TFT
- Display color：65536 colors
- Resolution：800*480
- Backlight：LED
- Luminance：300cd/m2
- LCD life：50000 hours
- Touch Panel：4-wire precision resistance network
- Memory：128M Flash+32M DDR
- Recipe memory：256KB+RTC
- External storage：1 USB Host
- Outline size(mm)（L*W*H）：204*150*38.55mm
- Installation opening size：192*138mm

Dimension (Unit:mm)

HP043-20DT

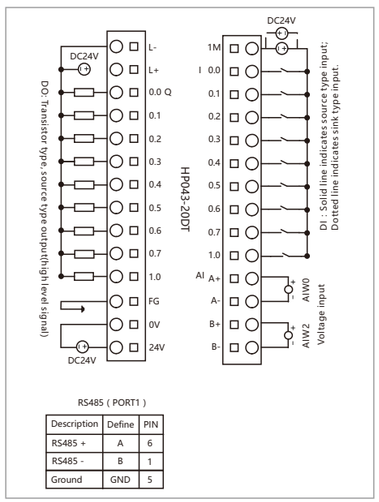


HP070-33DT



接线图

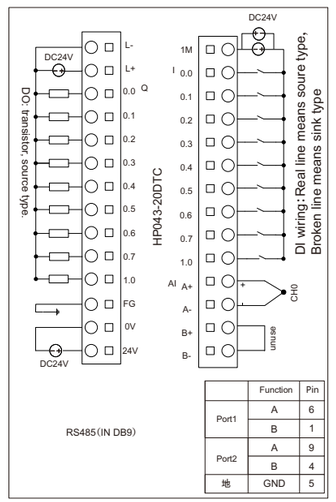
HP043-20DT



RS485 (PORT1)

Description	Define	PIN
RS485 +	A	6
RS485 -	B	1
Ground	GND	5

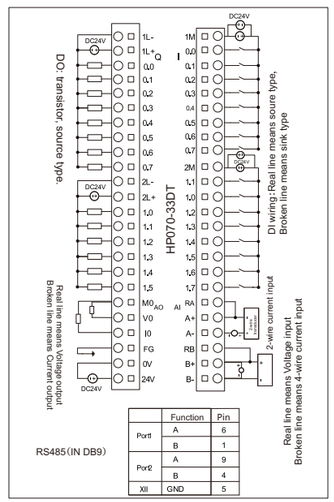
HP043-20DTC



RS485(IN DB9)

	Function	Pin
Port1	A	6
	B	1
Port2	A	9
	B	4
地	GND	5

HP070-33DT



RS485(IN DB9)

	Function	Pin
Port1	A	6
	B	1
Port2	A	9
	B	4
XII	GND	5

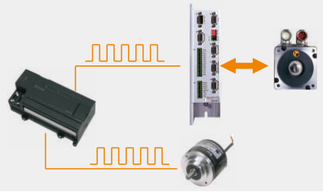
K5 series, as upgraded products of K3 series, close to market, provide diverse functions and higher performance, is a kind of cost-effective micro integrated PLC (Programmable Logic Controller). Kinco-K5 CPU provides special I/O functions (high-speed counter, PTO/PWM output), CANopen master, multiple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

Overview of Kinco-K5 PLC

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 disigned 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 dispaly 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℃ ~ +70℃
	Relative humidity	10% ~ 95%, non-condesing
	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℃
	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, three 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, @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，I0V/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 provider 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.

Product List of Kinco-K5 PLC

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

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	12	12	12
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 protocal			
High-speed counter Single-phase Dual-phase	2 2, Max. 60KHz 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

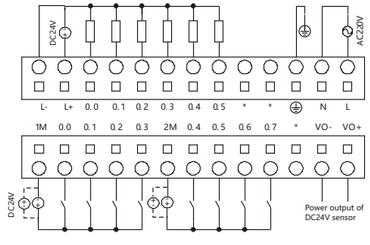
K504EX-14AT

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

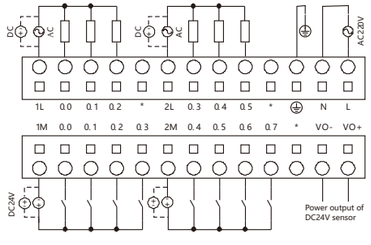
Power supply: AC85-265V power supply
Built-in I/O points: 14 I/O, DI 8*DC24V, DO 6*Relay, relay output
Communication port: 1 RS232, 1 RS485
Connectable expansion modules: Yes. At most 4 expansion modules
Real-time clock: Yes
Installation size(mm): 97×114×70 (L×W×H)

K504EX-14AT



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

K504EX-14AR



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

CPU504EX

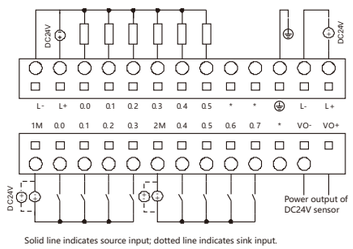
K504EX-14DT

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

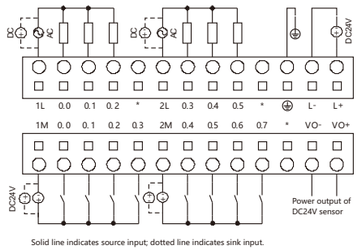
Power supply: DC20.4-28.8V power supply
Built-in I/O points: 14 I/O, DI 8*DC24V, DO 6*Relay, relay output
Communication port: 1 RS232, support programming, Modbus RTU(slave), free protocol
Connectable expansion modules: Yes. At most 4 expansion modules
Real-time clock: Yes
Installation size(mm): 97×114×70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

K504EX-14DT



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

K504EX-14DR



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

CPU506

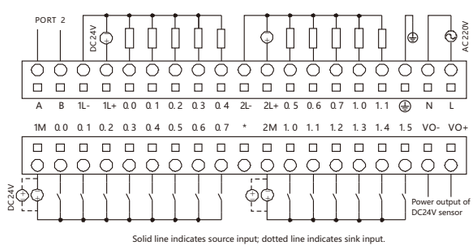
K506-24AT

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

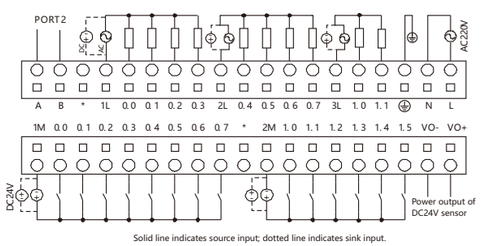
Power supply: AC85-265V power supply
Built-in I/O points: 24 I/O, DI 14*DC24V, DO 10*Relay, relay output
Communication ports: 1 RS232, 2 RS485
Connectable expansion modules: Yes. At most 10 expansion modules
Real-time clock: Yes
Installation size(mm): 125×114×70 (L×W×H)

K506-24AT



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

K506-24AR



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

CPU506

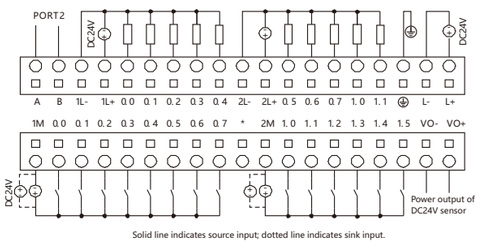
K506-24DT

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 12 expansion modules
Real-time clock: Yes
Installation size(mm): 125×114×70 (L×W×H)

K506-24DR

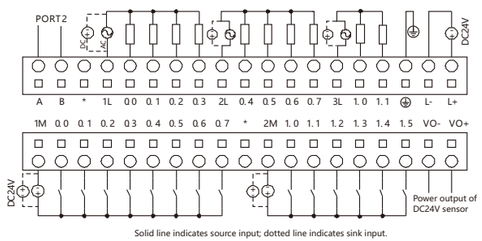
Power supply: DC20.4-28.8V power supply
Built-in I/O points: 24 I/O, DI 14*DC24V, DO 10*Relay, relay output
Communication port: 1 RS232, 2 RS485
Connectable expansion modules: Yes. At most 12 expansion modules
Real-time clock: Yes
Installation size(mm): 125×114×70 (L×W×H)

K506-24DT



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

K506-24DR



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

CPU506EA

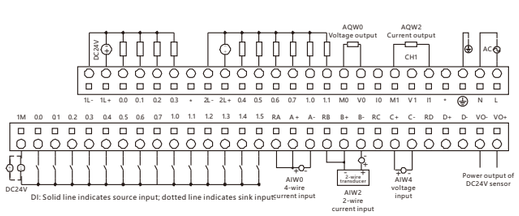
K506EA-30AT

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

K506EA-30DT

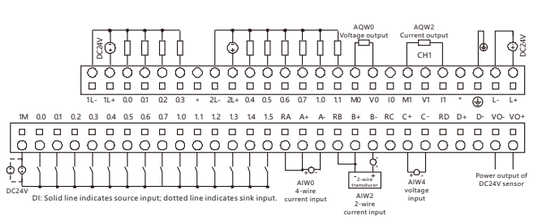
Power supply: DC20.4-28.8V power supply
Built-in I/O points: 30 I/O, DI 14*DC24V, DO 10*DC24V, DO is transistor output,
AI 4*IV, AO 2*IV,
AI/AO support 4-20mA/1-5V/0-20mA/0-10V signal forms
Communication port: 1 RS232, 2 RS485
Connectable expansion modules: Yes. At most 12 expansion modules
Real-time clock: Yes
Installation size(mm): 200×114×70 (L×W×H)

K506EA-30AT



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

K506EA-30DT



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

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

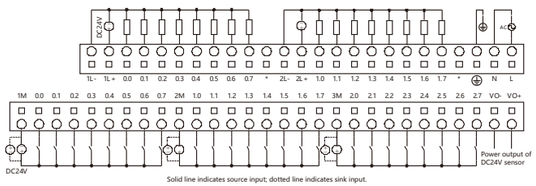
K508-40AR

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

K508-40AX

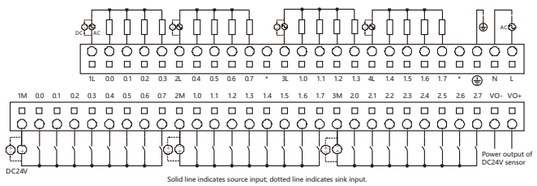
Power supply: AC85-265V power supply
Built-in I/O points: 40 I/O, DI 24*DC24V, DO 12*Relay+4*DC24V
Communication port: 1 RS232, 2 RS485
Connectable expansion modules: Yes. At most 12 expansion modules
Real-time clock: Yes
Installation size(mm): 200×114×70 (L×W×H)

K508-40AT



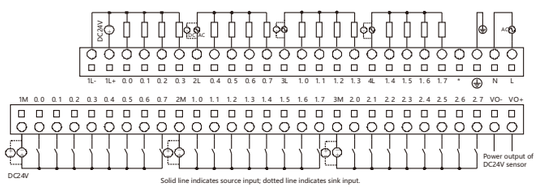
Solid line indicates source input; dotted line indicates sink input.

K508-40AR



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

K508-40AX



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

CPU Model Description & Wiring Diagram

CPU508

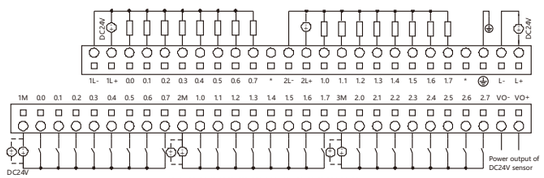
K508-40DT

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

K508-40DR

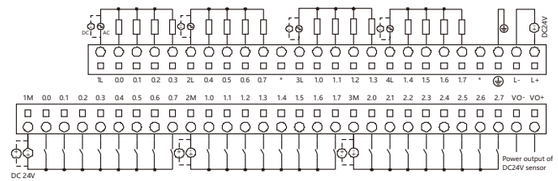
Power supply: DC20.4-28.8V power supply
Built-in I/O points: 40 I/O, DI 24*DC24V, DO 16*Relay, relay output
Communication port: 1 RS232, 2 RS485
Connectable expansion modules: Yes. At most 12 expansion modules
Real-time clock: Yes
Installation size(mm): 200×114×70 (L×W×H)

K508-40DT



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

K508-40DR



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

Model Description of Expansion I/O Module & Wiring Diagram

Digital Input Module PM521

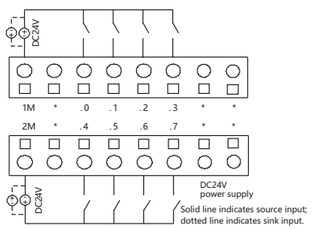
K521-08DX

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-coupler isolation between input signal and internal circuit, isolation voltage 500VAC/1 min
Signal indication: Separated LED indicates for each channel
Module width: 50mm

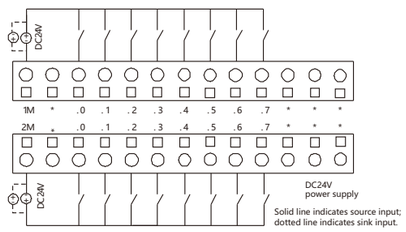
K521-16DX

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

K521-08DX



K521-16DX



Digital Output Module PM522

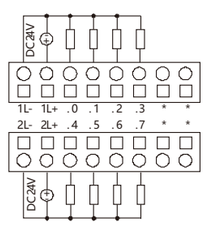
K522-08DT

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-coupler isolation between input signal and internal circuit, isolation voltage 500VAC/1 min
Signal indication: Separated LED indicates for each channel
Module width: 50mm

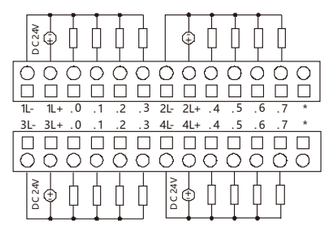
K522-16DT

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



Model Description of Expansion I/O Module & Wiring Diagram

Digital Output Module PM522

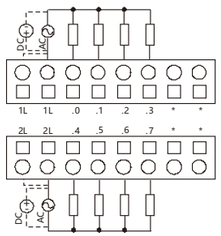
K522-08XR

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-coupler isolation between coil and contact,
isolation voltage 2000Vrms.
Signal indication: LED indicates for each separated channel.
Module width: 50mm.

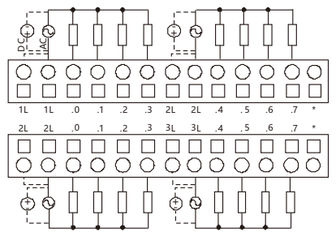
K522-16XR

Output points: 16, divided into 4 groups, each group with 4 channels.
Output type: source (common-cathode).
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



Digital Input/output Module PM523

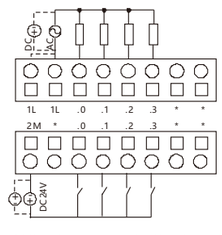
K523-08DR

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-coupler isolation,
DO channels adopt relay isolation
Signal indication: Separated LED indicates for each channel
Module width: 50mm

K523-16DR

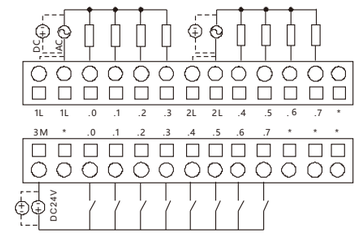
Input point: 8, totally classified into 1 group
Input type: Source (common-cathode)/sink (common-anode)
Input voltage: Rated DC24V, voltage range of logic "1" is DC11～30V
Output point: 8, divided into 2 groups, each group with 4 channels
Output type: Relay
Load voltage: Max. DC30V/AC250V, max. load current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

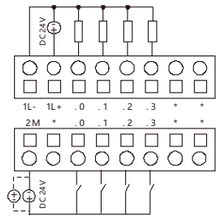
K523-08DT

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-coupler isolation
Signal indication: Separated LED indicates for each channel
Module width: 50mm.

K523-16DT

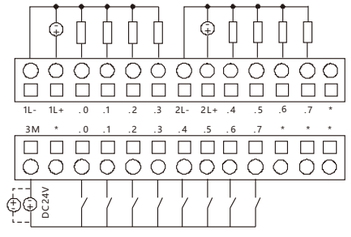
I/O point: 16, DI 8*DC24V, DO 8*DC24V
Input type: Source (common-cathode)/sink (common-anode)
Input voltage: Rated DC24V, voltage range of logic "1" is DC11～30V
Output type: Transistor
Output voltage: Rated DC24V, max. output current of each channel is 0.5A
Isolation mode: Opto-coupler isolation
Signal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

Model Description of Expansion I/O Module & Wiring Diagram

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

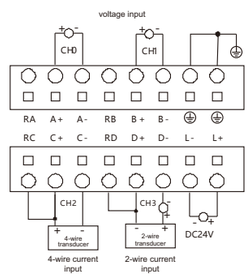
K531-04RD

Input channel: 4
Input signal: Pt100, Cu50, Pt1000, Cu100, Resistor are selectable, 2-wire or 3 wire
Measurement range: Pt 100 -200~850℃, Cu50 -50~150℃, Pt1000 -50~300℃, Resistor 0~2000Ω
Measurement accuracy: Temperature ±0.5℃, 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

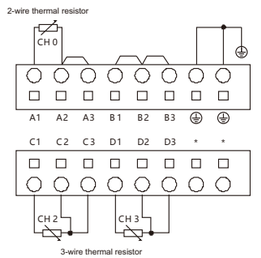
K531-04TC

Input channel: 4
Input signal: J type, K type, E type, S type, internal/external compensation selectable
Measurement range: J type -210~1200℃, K type -270~1300℃, E type -120~1000℃, S type -50~1600℃
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

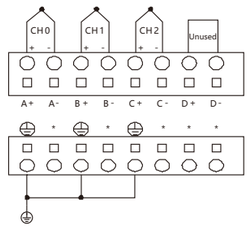
K531-04IV



K531-04RD



K531-04TC

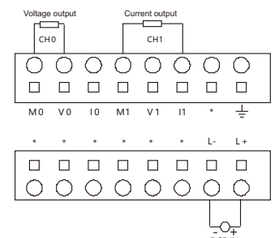


Analog Output Module PM532

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

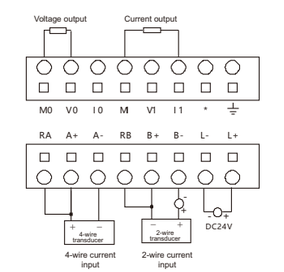


Analog Input/output Module PM533

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

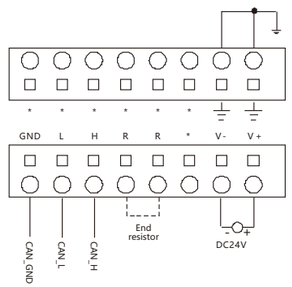
Specification of CANopen master station

- 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 configurate boot-up by KincoBuilder;
- Support PDO: each slave station support up to 8 TPDOs and 8 RPTOs; 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 Supplier Module PS580

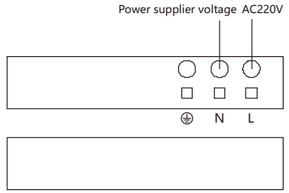
K580

- 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.

K580



Installation Mode

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

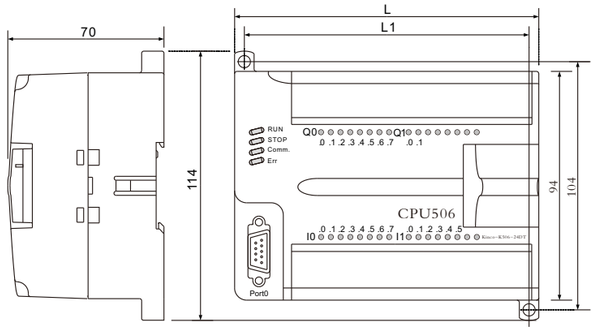
1.DIN rail clamping
2.M4 screw installation

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 nocentralized 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)

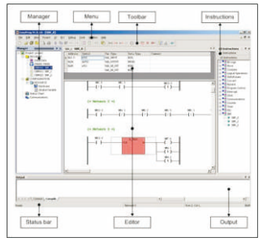
If L=200mm, L1=190mm
If L=125mm, L1=115mm
If L=97mm, L1=87mm
If L=75mm, L1=65mm
If L=50mm, L1=40mm

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

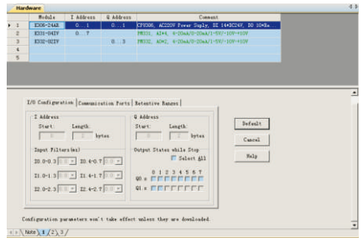
Kinco Builder

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.

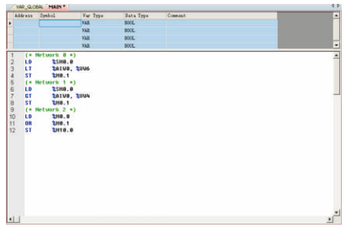
By KincoBuilder, users could monitor online, force variable, program update(3-level password protection), check diagnosis information and so on. The windows style interface facilitate users to manage program, and by workplace and tool bar to realize quick operation, for example add, delete, debugging,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



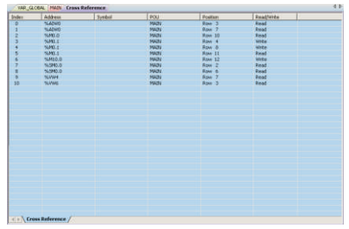
LD Editor and Online Monitoring



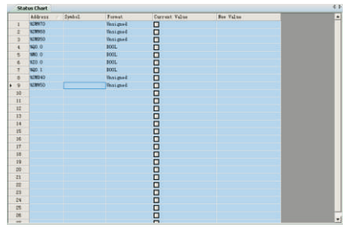
Hardware Configuration



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**)