

PROVEN PERFORMANCE

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Kinco

Programmable
Logic
Controller
PLC

 Kinco PLC Catalog

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



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

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K1E04-2308

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Programming Software: Kinco Builder

Product Features:

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

Main Features:

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



Transistor type of DIO (DI, DO multiplexing)

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

USB programming

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

High speed counter

- K2 provides 4 high speed counters. Every high speed counter can support maximum 32 PV and support 32"CV=PV" interrupts.
- High speed counter support multiple modes: single phase, double phase (up/down), CW/CCW, AB phase(1multiple frequency and 4 multiple frequency).
- Counting frequency: 10-50KHz.

High speed output

- K2 provides 3 high speed output(Q0.0,Q0.1 and Q0.4). It supports PTO and PWM.
- Output frequency: 10-50KHz.
- The software provides PLS(PWM or PTO), position controlling instructions, PRL0_F(following instructions).

Serial port communication

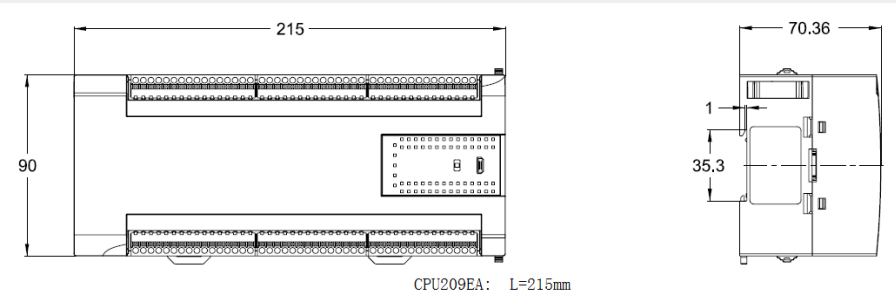
- K2 provides 2 RS485 communication ports, PORT1 and PORT2. It supports baudrate up to 115.2kbps.
- PORT1 can work as programming port, also supports Modbus RTU protocols(as a slave), free-protocol communication mode.
- PORT2 supports Modbus RTU (as a slave or master) and free-protocol communication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

Technical Specifications

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

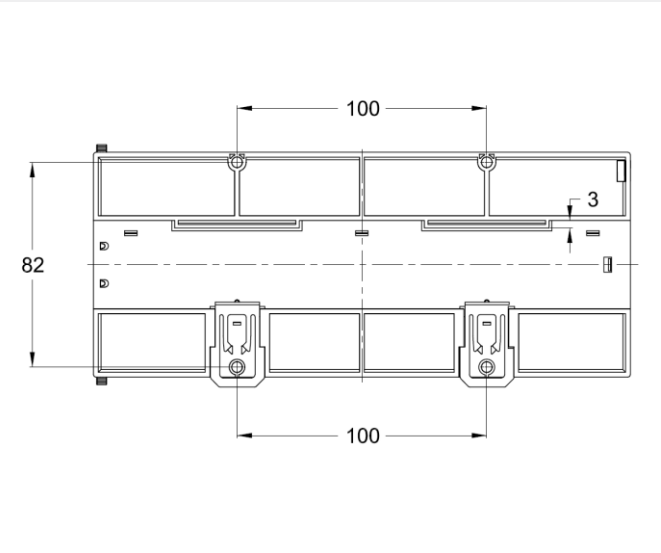
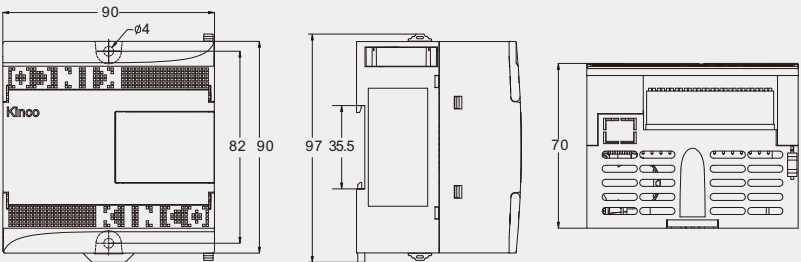


CPU209



Mechanical Dimensions (Unit : mm)

CPU205&CPU204



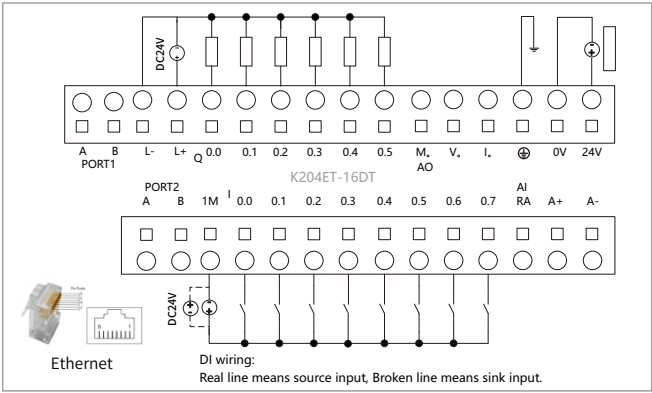
CPU204



K204ET-16DT

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

K204-16DT



CPU205



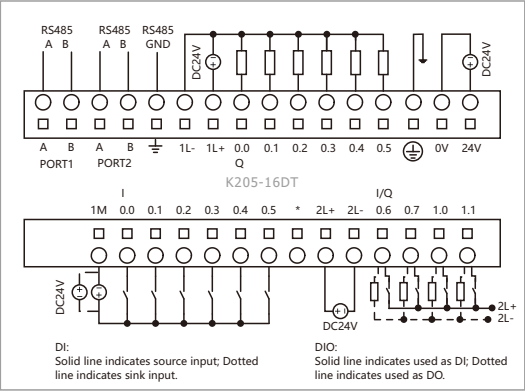
K205-16DT

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

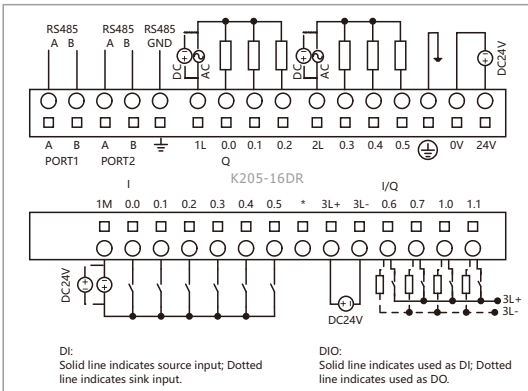
K205-16DR

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

K205-16DT



K205-16DR



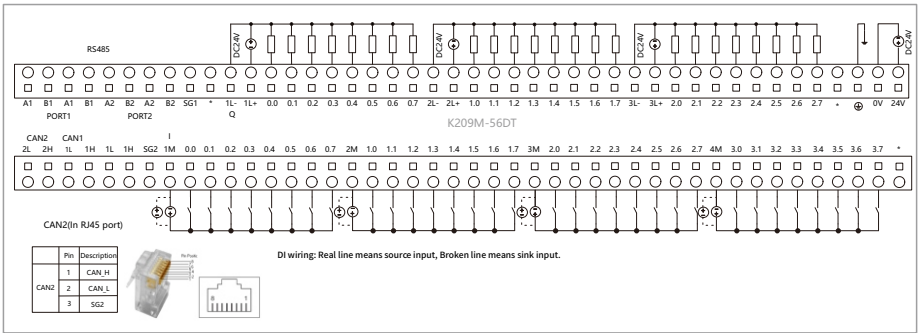
CPU209



K209M-56DT

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

K209M-56DT



Overview

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



Main features

- **Small size, save space**
Thin and small size, width is less than 25mm, can be installed in very small electrical cabinet.
- **Higher computing speed**
Based on latest MCU platform, the scanning cycle for 1000 instructions is 0.25ms.
- **CANopen port**
The KS105C1 CPU module provides a CAN interface , which Support Kinco Motion control instruction、CANopen master、 slave and free protocol.
KS105C2/KS101M CPU module provides 1 CAN ,which Support Kinco Motion control instruction、CANopen master and free protocol.1*expansion port(also be CAN interface at the same time, support CAN free communication).
- **4 high speed counters**
KS101M provides 2 high-speed counters, while KS105, KS105C1, and KS105C2 provide 4 high-speed counters. Maximum counting frequency 200K.
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**
For KS101M, high-speed pulse output is not supported.
All 4 high speed pulse output channels support PTO and PWM output. 3 channels support Max. 200 KHz(load resistor less than 1.5kohm), 1 channel supports Max. 10 KHz.
Software provides PLS(PWM or PTO), Position control instruction set, PFLO_F(following instruction) for simple motion control application.
- **Serial communication port**
1*RS232(PORT 0),1*RS485(PORT 1),Max. baudrate 115.2K.
PORT0 can work as programming port, Modbus RTU slave and support free protocol.
PORT1 can work as programming port, Modbus master/slave, and support free protocol.
- **Expansion module as Modbus slave**
Expansion modules RS485 port can be used as Modbus slave.

CPU module

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

Expansion module

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

CPU101



KS101M-04DX

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

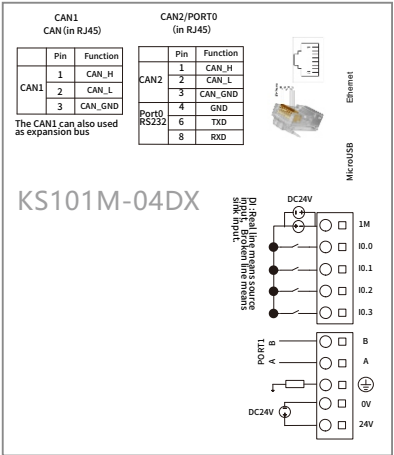
CPU105



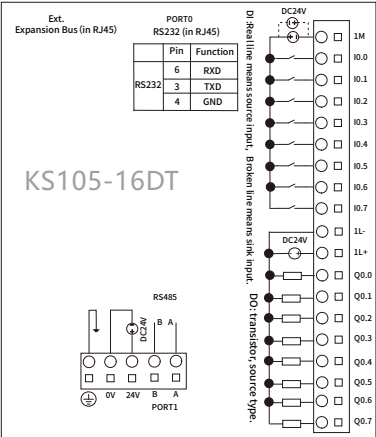
KS105-16DT

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

KS101M-04DX



KS105-16DT



CPU105



KS105C1-16DT

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



KS105C2-16DT

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

Expansion Module



KS121-16DX

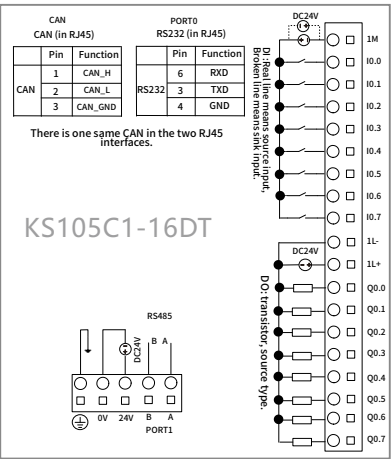
Power supply: DC24V
Input point: 16, divided into 2 groups, each group with 8 channels
Input type: Source / Sink
Input voltage: Rated DC24V, voltage range of logic "1" is DC11-30V
Isolation method: Photoelectric isolation between the signal and internal circuit.
Isolation voltage 500VAC / 1 minute
Installation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



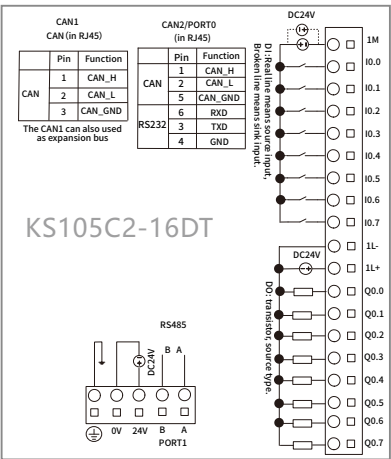
KS122-12XR

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

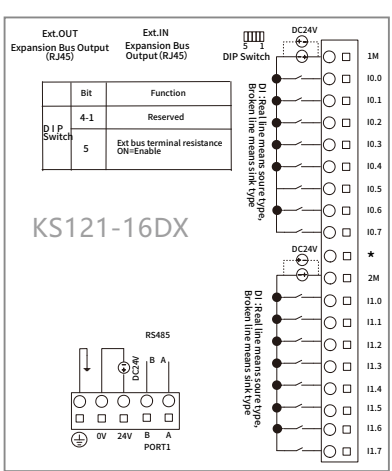
KS105C1-16DT



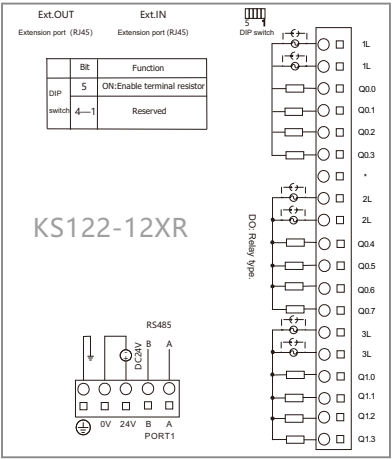
KS105C2-16DT



KS121-16DX



KS122-12XR



Expansion Module



KS122-14DT

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



KS123-14DR

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



KS131-04RD

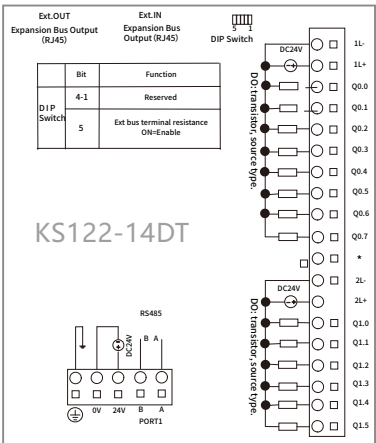
Power supply: DC24V
Input channel: 4
Input signal: Pt100、Pt1000、Cu50、Resistor are selectable, 2-wire or 3-wire
Measurement range: Pt100 -200~850℃、Cu50 -50~150℃、Pt1000 -50~300℃、Resistor 0~2000Ω
Measurement accuracy: Temperature±0.5℃; Resistance±1Ω
Parameter configuration: Each channel is individually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



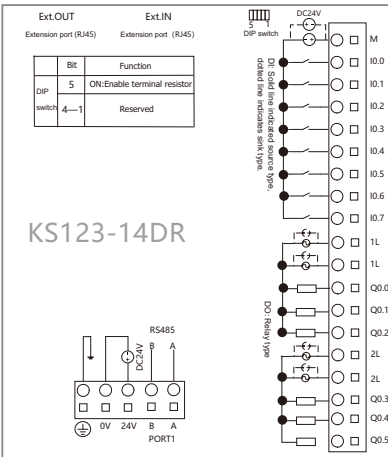
KS133-06IV

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

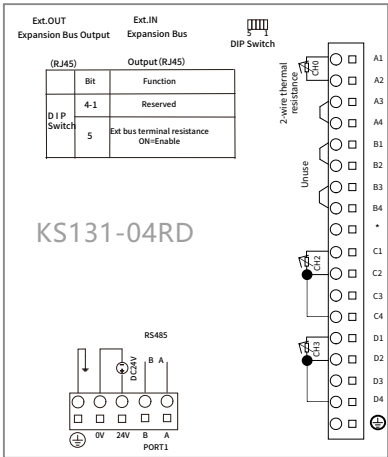
KS122-14DT



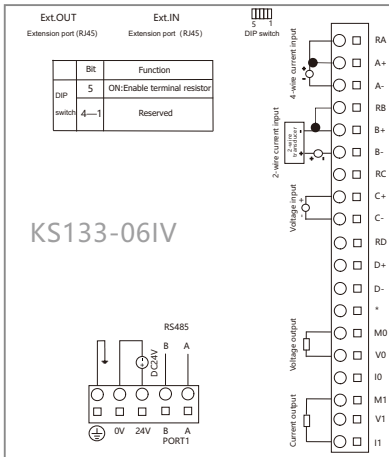
KS123-14DR



KS131-04RD



KS133-06IV



Overview

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

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



CPU203



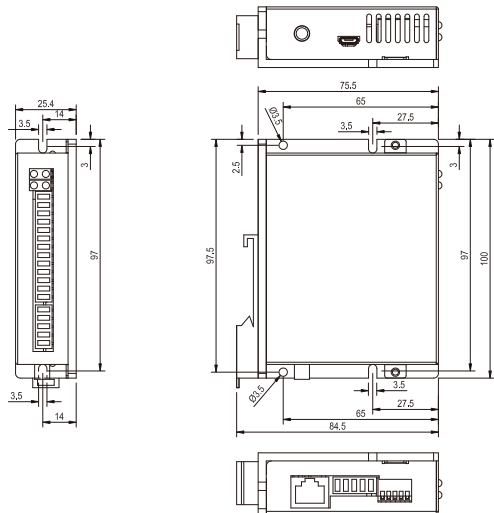
KW203-12DT-R2

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

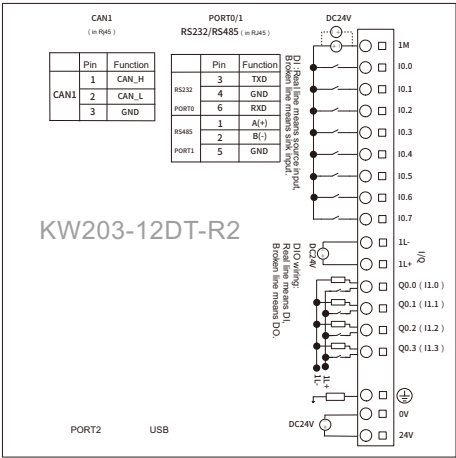
Technical Specifications

KW Series PLC							
Series	Order no.	Specification					
		Supply voltage	IO	Port	Wireless band	Number of expansion modules	Installation size(mm)
KW2	KW203-12DT-R2	DC 24V	8*DI, 4*DIO Include: 4 high-speed pulse inputs, 2 high-speed pulse output, Max 200KHz	1*RS485, 1*RS232, 1*CAN, 1*LoRa(wireless)	2.4GHz	Up to 14	100*84.5*25.4
KW213	KW213-08DTX-R2	DC 9~24V	DIO 8*Transistor	1*RS485, 1*LoRa (wireless)	2.4~2.5GHz	Extension bus: not supported. Programming port: Micro-USB	100*84.5*25.4

Mechanical Dimensions (Unit : mm)



KW203-12DT-R2



Overview

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



Main features

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

parameter

Economy		
Parameter	MK070C-33DT	MK043C-20DT
I/O and communication port		
Digital IO	DI 16*DC24V, DO 14*DC24V	DI 9*DC24V, DO 9*DC24V
Analog IO	2 * AI, 1 * AO Both support 4-20mA/1-5V/0-20mA/0-10V signals	2 * AI Supports 1-5V/0-10V signals
Connect expansion BD board	-	
Program port	USB2.0 SLAVE	
Serial port	1* RS485: PORT 1. The highest communication rate reaches 115.2kbps PORT1 supports programming protocol, Modbus RTU master and slave, and free communication	
High-speed counter	4 Supports single-phase, double-phase UP/DOWN, and AB phase pulse input 4-channel maximum counting frequency: 50KHz	
High-speed output	4	4
	Q0.0 Q0.1 Q0.4: Up to 50KHz (Each channel requires load resistance not exceed 3KΩ, Q0.5: Up to 10KHz	
Edge interrupt	4, I0.0-I0.3 can be on/off interrupt.	
Memory area		
User programme	Maximum. 4K instructions supported	
User data memory	M area 1K bytes; V area 4K bytes	
Data back-up memory	E2PROM, Maximum. 448 bytes supported	
Retentive memory range	V area (1908 bytes) + C area (C0-C63) Lithium battery, 3-year lifetime at room temperature	
Others		
RTC	Built-in: Error less than 5 minutes/month at 25 °C	

parameter

Standard			
Parameter	MK070E-33DT	MK070E-32DX	MK043E-20DT
I/O and communication port			
Digital IO	DI 16*DC24V , DO 14*DC24V	DI16*DC24V , DO 4*DC24V+ 12*Relay	DI 9*DC24V , DO 9*DC24V
Analog IO	2 * AI, 1 * AO Both support 4-20mA/1-5V/0-20mA/ 0-10V signals	None	2 * AI Supports 1-5V / 0-10V signal
Connect expansion BD board	8 extension modules		
Program port	USB2.0 SLAVE		
CAN Communication port	1 Supports Kinco motion control instructions	1 Supports CANOpen master station	1 Supports CAN free communication
Serial port	2* RS485: PORT 1, PORT 2. The highest communication rate reaches 115.2kbps PORT1 supports programming protocol, Modbus RTU master and slave, and free communication PORT2 supports Modbus RTU master and slave and free communication		
High-speed counter	4 Supports single-phase, double-phase UP/DOWN, and AB phase pulse input 4-channel maximum counting frequency: 50KHz		
High-speed output	4	2	4
	Q0.0 Q0.1 Q0.4: Up to 50KHz （Each channel requires load resistance not exceed 3KΩ, Q0.5: Up to 10KHz		
Edge interrupt	4, I0.0-I0.3 can be on/off interrupt.		
Memory area			
User programme	Maximum. 4K instructions supported		
User data memory	M area 1K bytes; V area 4K bytes		
Data back-up memory	E2PROM. Maximum. 448 bytes supported		
Retentive memory range	V area (1908 bytes) + C area (C0-C63) Lithium battery, 3-year lifetime at room temperature		
Others			
RTC	Built-in: Error less than 5 minutes/month at 25 °C		

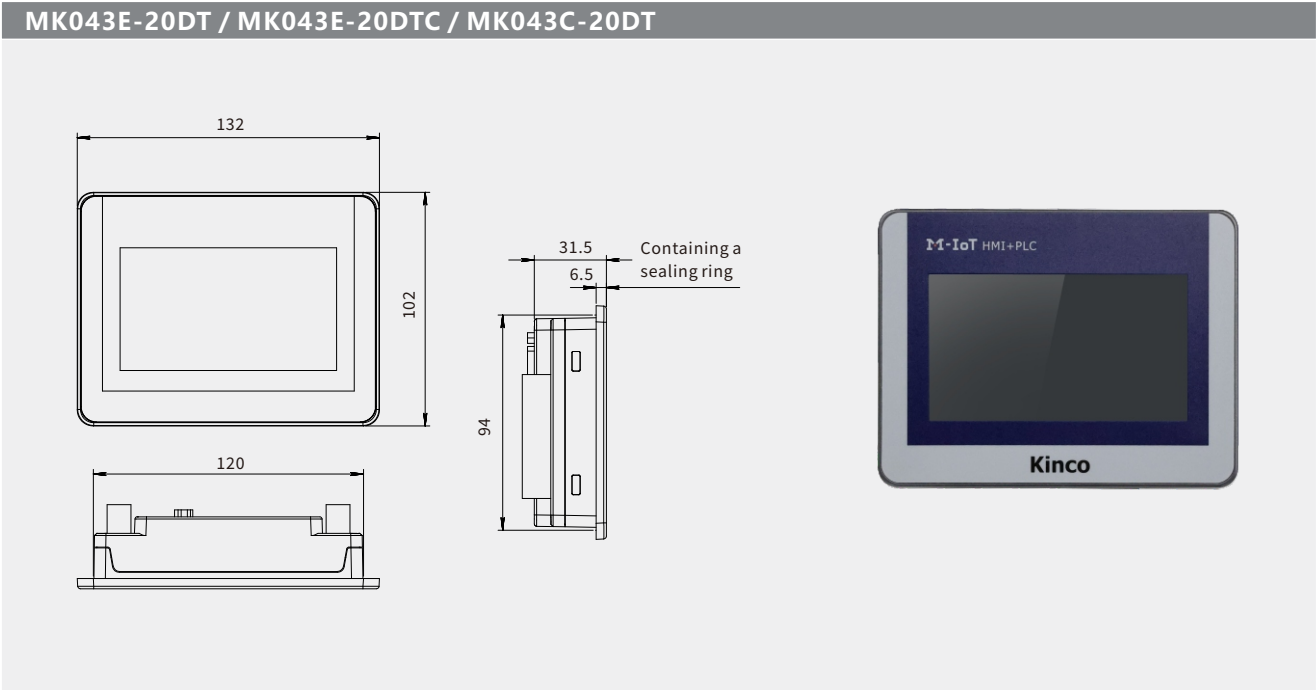
parameter

Enhancement			
Parameter	MK070E-27DRT	MK043E-20DTC	MK043E-27DT
I/O and communication port			
Digital IO	DI 12*DC24V , DO 12* Relay	DI 9*DC24V , DO 9*DC24V	DI 10*DC24V , DIO 4*DC24V DO 10*DC24V
Analog IO	3 * RD Supports Pt100 type thermistors, Temperature measurement range -40 °C~240 °C	2 * TC Supports J/K/E/T type thermocouples	2 * AI, 1 * AO All support 4-20 mA / 1-5V / 0-20 mA / 0-10V signal
Connect expansion BD board	8 extension modules		
Program port	USB2.0 SLAVE		
CAN Communication port	1 Supports CAN free communication	1 Supports CAN free communication	1 Supports CAN free communication
Serial port	2* RS485: PORT 1, PORT 2. The highest communication rate reaches 115.2kbps PORT1 supports programming protocol, Modbus RTU master and slave, and free communication PORT2 supports Modbus RTU master and slave and free communication		
High-speed counter	4 Supports single-phase,double-phase UP/DOWN, and AB phase pulse input 4-channel maximum counting frequency: 50KHz		
High-speed output	4 Q0.0 Q0.1 Q0.4: Up to 50KHz (Each channel requires load resistance not exceed 3KΩ, Q0.5: Up to 10KHz	2	
Edge interrupt	4, I0.0-I0.3 can be on/off interrupt.		
Memory area			
User programme	Maximum. 4K instructions supported		
User data memory	M area 1K bytes; V area 4K bytes		
Data back-up memory	E2PROM, Maximum. 448 bytes supported		
Retentive memory range	V area (1908 bytes) + C area (C0-C63) Lithium battery, 3-year lifetime at room temperature		
Others			
RTC	Built-in: Error less than 5 minutes/month at 25 °C		

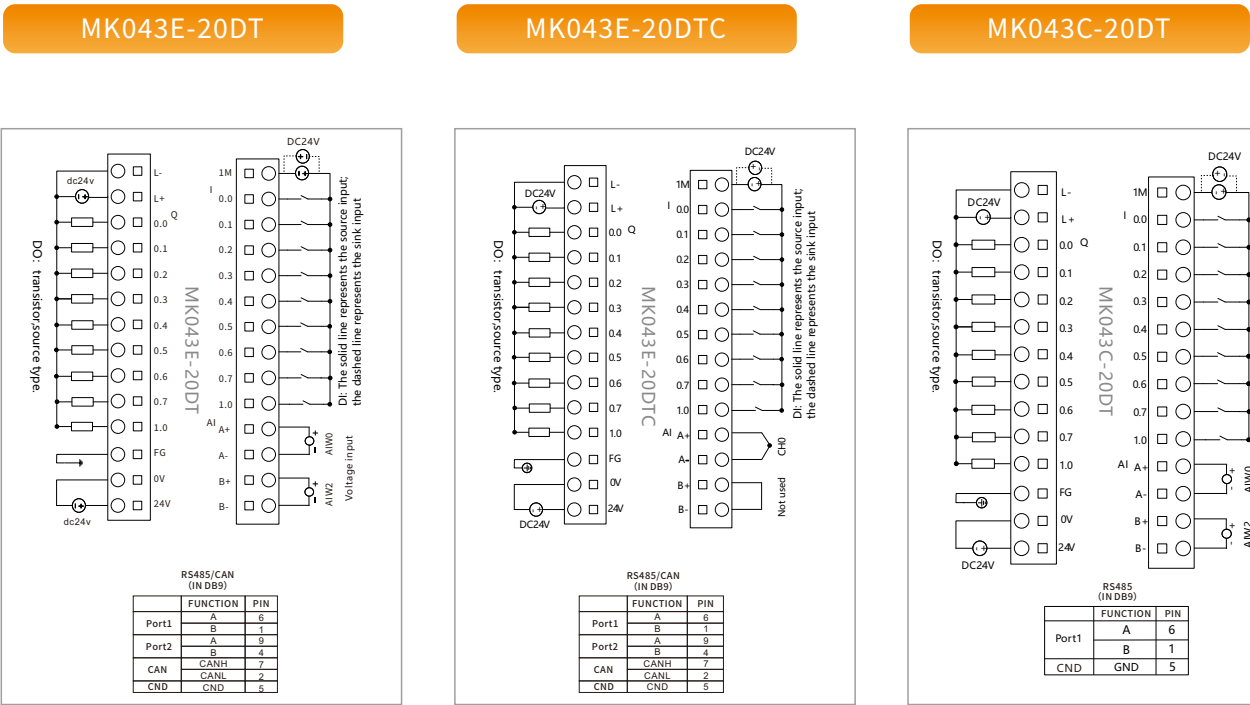
Model parameters (HMI part)

Product mode	Standard/Enhancement		Economy	Standard/Enhancement	Economy
Display Size	7" TFT			4.3" TFT	
Resolution	800*480 pixels			480*272 pixels	
Display Color	256K				
Brightness	250cd/m2			400cd/m2	
Backlight Type	LED				
Touch Panel	4-wire precision resistor network				
Backlight Life	50000 hours				
Processor	700MHz RISC				
Serial port	None			1*RS232(COM2).Only MK043-27DT supports	None
Ethernet	10M/100M self-adaptive port	None		10M/100M self-adaptive port	None
Storage	128MB Flash + 64MB DDR2				
Recipe storage	Internal real time clock + 256KB recipe				
Expandable Memory	1 USB Host				
Program Download	Network Port/1* USB Slave/USB Flash Disk				
Print Port	USB				
Software	Dtools + EdgeAccess + Miot				

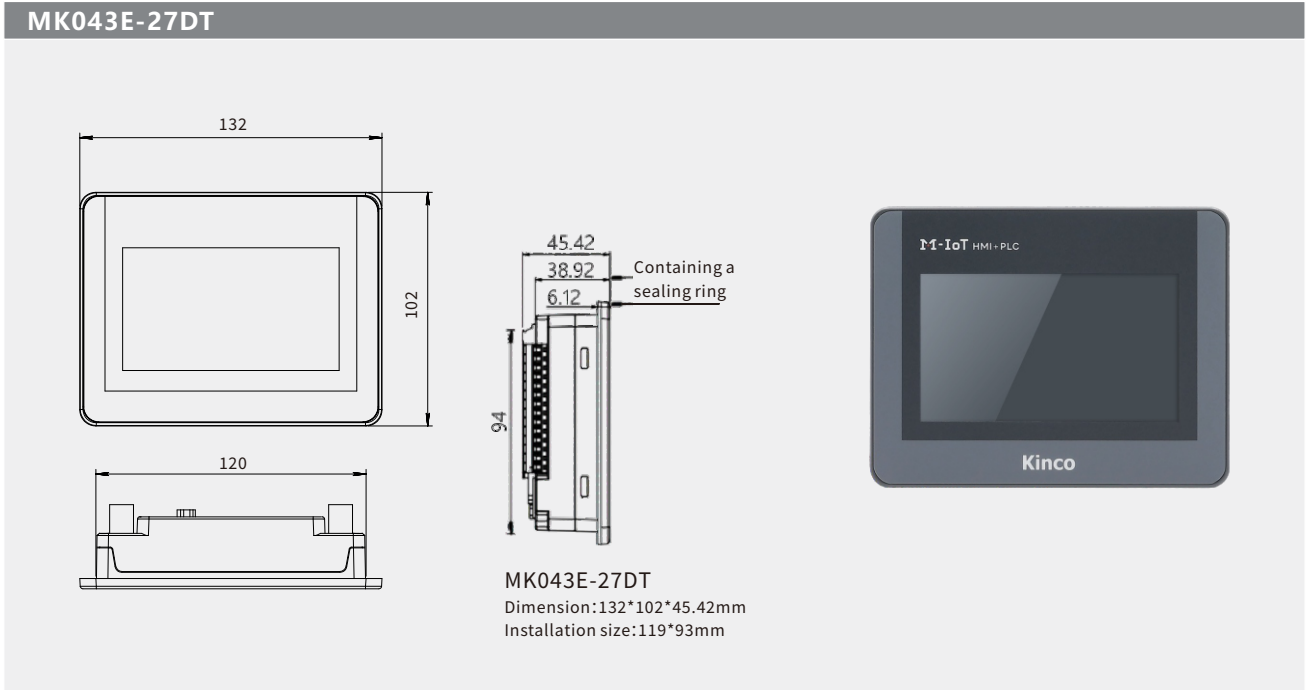
Dimension (Unit:mm)



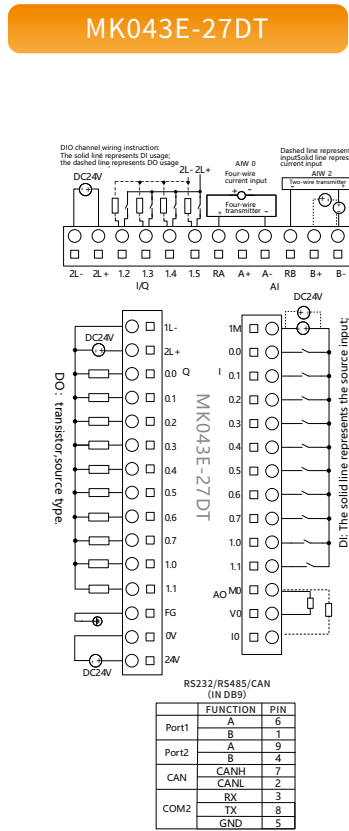
Wiring Diagram



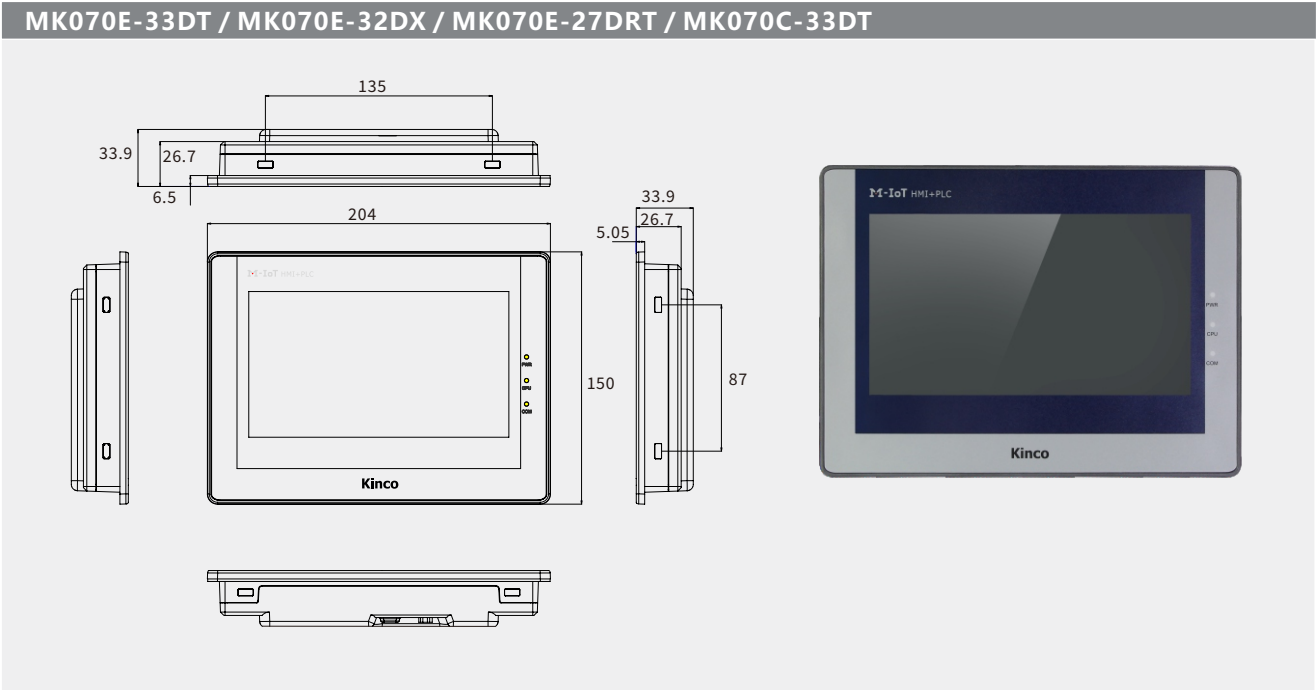
Dimension (Unit:mm)



Wiring Diagram

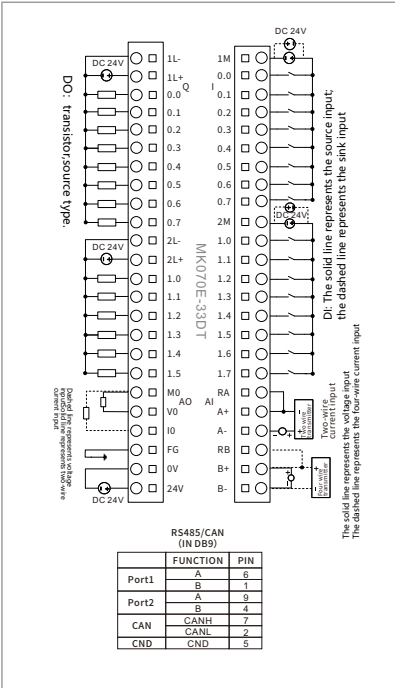


Dimension (Unit:mm)



Wiring Diagram

MK070E-33DT



Overview

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



Main features

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

Name	Order number	Functional description
cpu module		
CPU606	K606-24DT	DC24V, DI 14*DC24V, DO 10*DC24V communication port: 2*RS485, 1*Ethernet 1 expansion BD board can be connected 14 expansion modules can be connected
	K606-24AT	AC100-240V, DI 14*DC24V, DO 10*DC24V communication port: 2*RS485, 1*Ethernet 1 expansion BD board can be connected (1*RS232+1*RS485 or 1*CAN) 14 expansion modules can be connected
	K606-24DR	DC24V, DI 14*DC24V, DO 10*Relay communication port: 2*RS485, 1*Ethernet 1 expansion BD board can be connected 14 expansion modules can be connected
	K606-24AR	AC100-240V, DI 14*DC24V, DO 10*Relay communication port: 2*RS485, 1*Ethernet 1 expansion BD board can be connected 14 expansion modules can be connected
CPU606EA	K606EA-30DT	DC24V, DI 14*DC24V, DO 10*DC24V, AI 4*IV, AO 2*IV communication port: 2*RS485, 1*Ethernet 2 expansion BD board can be connected 14 expansion modules can be connected
	K606EA-30AT	AC100-240V, DI 14*DC24V, DO 10*DC24V, AI 4*IV, AO 2*IV communication port: 2*RS485, 1*Ethernet 2 expansion BD board can be connected 14 expansion modules can be connected
CPU608	K608-40DT	DC24V, DI 24*DC24V, DO 16*DC24V communication port: 2*RS485, 1*Ethernet 2 expansion BD board can be connected 14 expansion modules can be connected
	K608-40AT	AC100-240V, DI 24*DC24V, DO 16*DC24V communication port: 2*RS485, 1*Ethernet 2 expansion BD board can be connected 14 expansion modules can be connected
	K608-40DR	DC24V, DI 24*DC24V, DO 16*Relay communication port: 2*RS485, 1*Ethernet 2 expansion BD board can be connected 14 expansion modules can be connected
	K608-40AR	AC100-240V, DI 24*DC24V, DO 16*Relay communication port: 2*RS485, 1*Ethernet 2 expansion BD board can be connected 14 expansion modules can be connected
Expansion BD board	KB6-CAN	1*CAN bus interface 1*CAN (CAN2)
	KB6-2COM	Two serial communication ports. 1 * RS232 (Port0). 1 * RS485 (Port3)
	KB6-4DI	DI 4*DC24V
	KB6-4DO	DO 4*DC24V

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



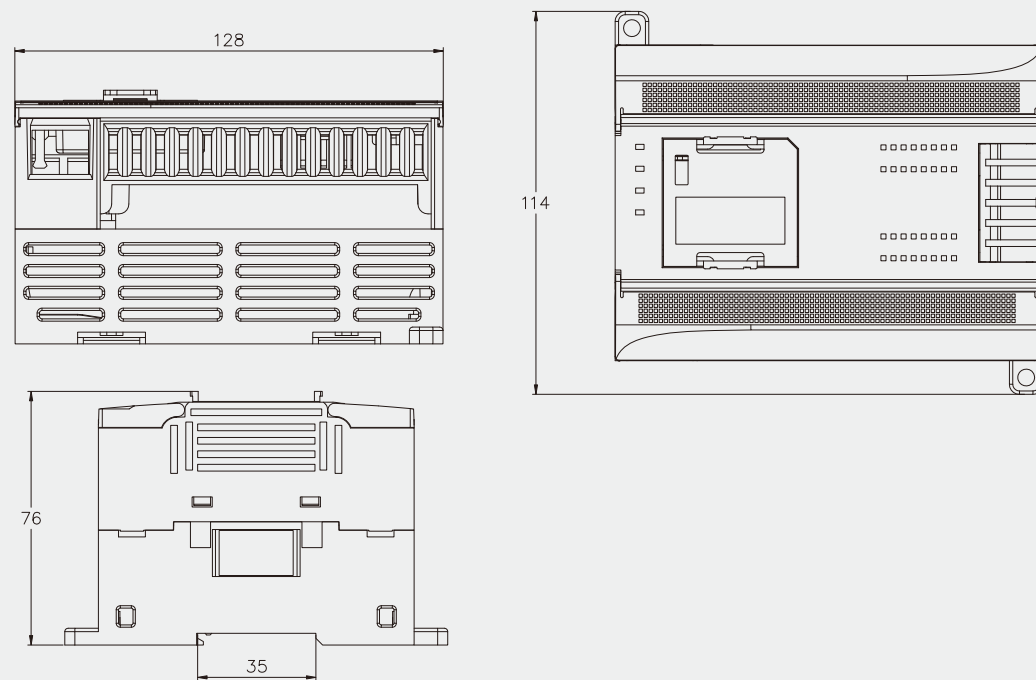
Name	Order no	Description
Expansion I/O module		
PM621	K621-08DX	DI 8*DC24V
	K621-16DX	DI 16*DC24V
PM622	K622-08XR	DO 8 * relay
	K622-16XR	DO 16* relay
	K622-08DT	DO 8*DC24V
	K622-16DT	DO 16*DC24V
PM623	K623-16DR	DI 8 * DC24V, DO 8 * relay
	K623-08DR	DI 4 * DC24V, DO 4 * relay
	K623-16DT	DI 8*DC24V, DO 8*DC24V
	K623-08DT	DI 4*DC24V, DO 4*DC24V
PM631	K631-04IV	4-channel AI, 4-20mA/1-5V/0-20mA/0-10V
	K631-04RD	Pt100, Pt1000, Cu50, and resistance
	K631-04TC	4-channel thermocouple input. J type, K type, E type, S type, internal/external compensation selectable
PM632	K632-02IV	2-channel AO, 4-20mA/1-5V/0-20mA/0-10V
PM633	K633-04IV	2-channel AI, 4-20 mA / 1-5V / 0-20 mA / 0-10V 2-channel AO, 4-20 mA / 1-5V / 0-20 mA / 0-10V
Expansion function module		
Power supplier module		
PS680	K680	Input voltage of the extended power supply module: AC85~265V; Output rated current: 5V 1A / 24V 250mA

Parameter

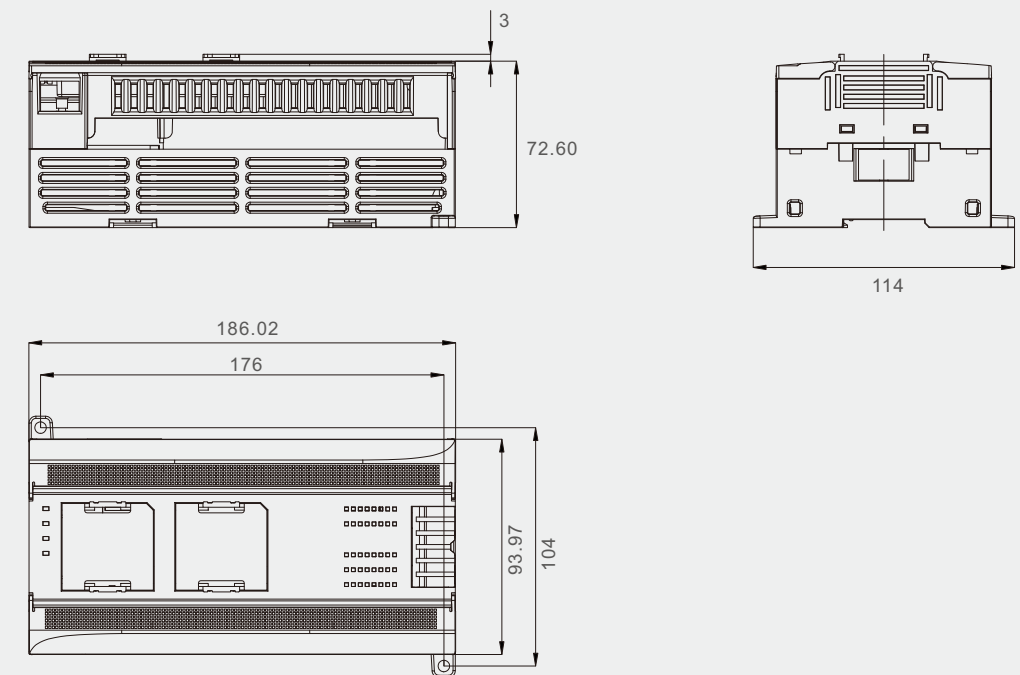
Parameter		CPU606	CPU606EA	CPU608
I/O and communication port				
Digital IO		14*DI/10*DO	14*DI/10*DO	24*DI/16*DO
Analog IO		--	4*AI / 2*AO	--
Connect expansion BD board		1	2	2
Connect expansion module		14		
Communication port	Serial port	Body: 2*RS485; BD board: 1*RS232 + 1*RS485		
	CAN	Body: none; BD board: 1*CAN		
	Ehternet	Body: 1*Ethernet		
High-speed counter single-phase double-phase		4 HSC0 and HSC1: Up to 200KHz; HSC2 and HSC3: Up to 20KHz HSC0 and HSC1: Up to 200KHz; HSC2 and HSC3: Up to 10KHz		
High-speed output		4(The output type is relay does not support high-speed output function) PTO0--PTO2: Up to 200KHz PTO3: Up to 10KHz (Each channel requires load resistance not exceed 1.5KΩ, otherwise the maximum output frequency will not be reached)		
Edge interrupt		4, I0.0-I0.3 can be on/off interrupt.		
Memory area				
User programme		Maximum. 8K instructions supported		
User data memory		M area 4K bytes; V area 16K bytes.		
Timer		256 1ms time base: 4 10ms time base: 16 100ms time base: 236		
Counter		256		
Data back up memory		EEPROM, Maximum. 1K bytes supported.		
Retentive memory range		V area (16K bytes) + C area(Counter, 512 bytes). Lithium battery, 3 year lifetime at room temperature.		
Others				
Interrupt		2, 0.1ms time base.		
Realtime Clock		built-in, time deviation is less than 5min/month at 25℃.		
DC24V output power		300mA, Short circuit protection.		

Dimensional drawings

CPU606



CPU606EA/CPU608



CPU606



K606-24DT

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



K606-24AR

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

CPU606



K606-24DR

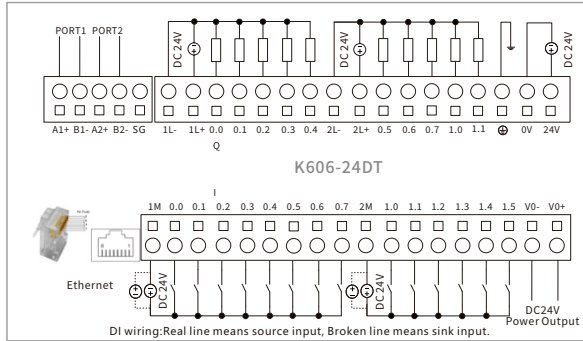
Power supply:DC20.4~28.8V power supply
Built-in I/O points:24 I/O, DI 14*DC24V, DO 10*Relay, relay output
Communication port:2*RS485, 1*Ethernet
Extended communication:Yes. BD board:1*CAN or 1*RS232 + 1*RS485
Connectable expansion modules:Yes. At most 14 expansion modules
Expansion BD Slot:1
Real-time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



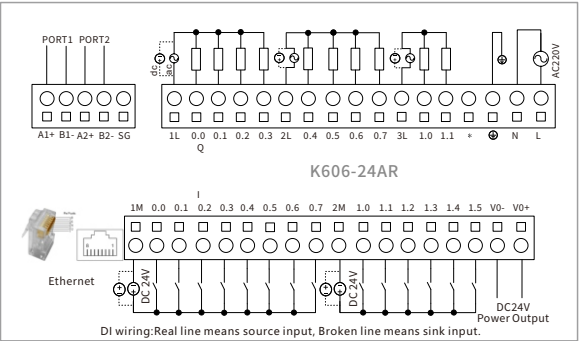
K606-24AT

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

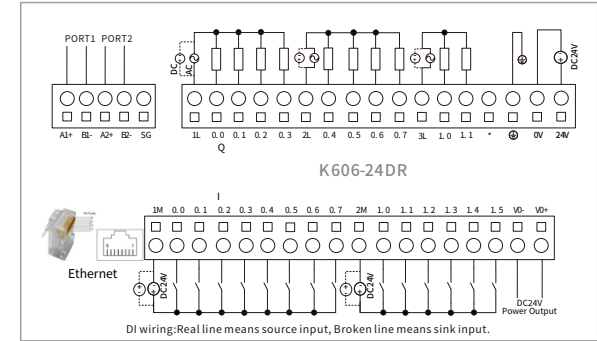
K606-24DT



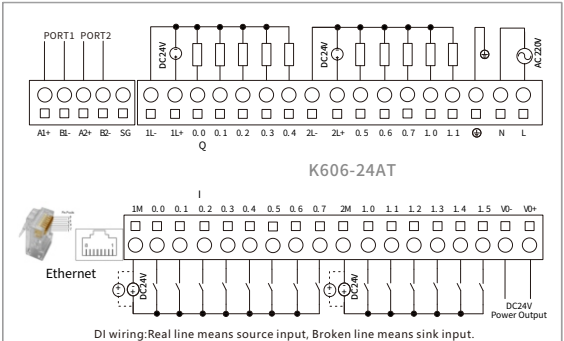
K606-24AR



K606-24DR



K606-24AT



CPU606EA



K606EA-30DT

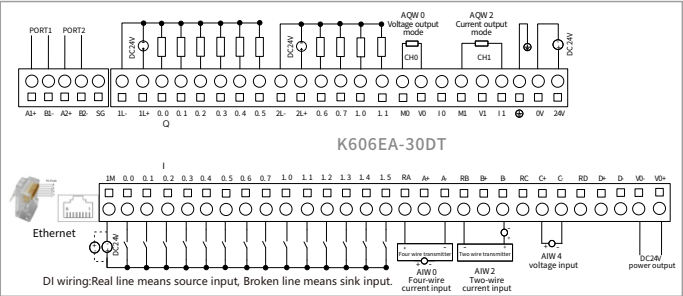
Power supply: DC20.4 – 28.8V power supply
Built-in I/O points: 30 I/O, DI 14*DC24V, DO 10*DC24V, DO is transistor output, AI 4*IV, AO 2*IV. AI/AO support 4-20mA/1-5V/0-20mA/0-10V signal forms
Communication port: 1 *Ethernet, 2 RS485
Extended communication: Yes. 1 CAN or 1 RS232 + 1RS485
Connectable expansion modules: Yes. At most 14 expansion modules
Real-time clock: Yes
Installation size(mm): 186×114×76 (L×W×H)
Expansion BD Slot:2



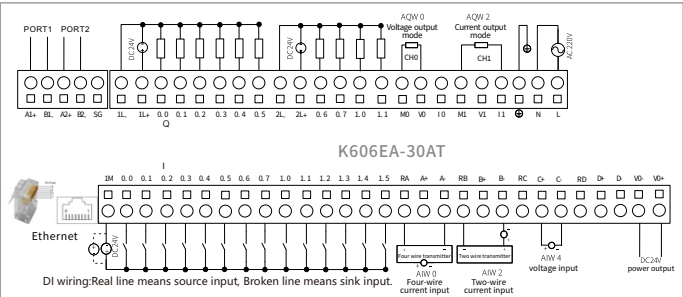
K606EA-30AT

Power supply: AC100 – 240 V 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 *Ethernet, 2 RS485
Extended communication: Yes. 1 CAN or 1 RS232 + 1RS485
Connectable expansion modules: Yes. At most 14 expansion modules
Real-time clock: Yes
Installation size(mm): 186×114×76 (L×W×H)
Expansion BD Slot:2

K606EA-30DT



K606EA-30AT



CPU608



K608-40DT

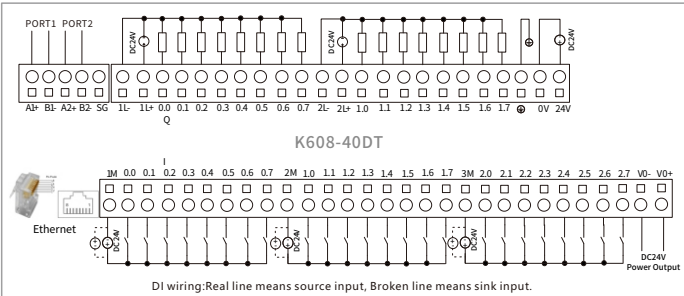
Power supply: DC20.4~28.8V power supply
Built-in I/O points: 40 I/O, DI 24*DC24V, DO 16*DC24V, transistor output
Communication port: 2*RS485, 1*Ethernet
Extended communication: Yes. BD board: 1*CAN or 1*RS232 + 1*RS485
Connectable expansion modules: Yes. At most 14 expansion modules
Expansion BD Slot:2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



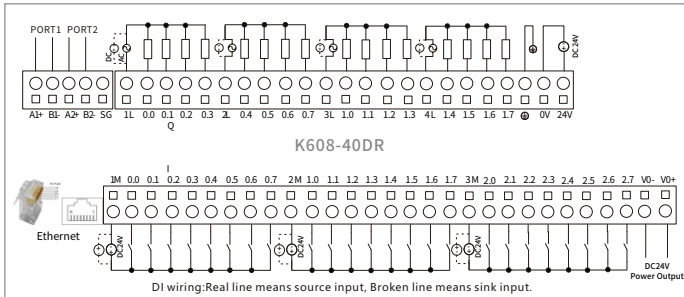
K608-40DR

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

K608-40DT



K608-40DR



CPU608



K608-40AR

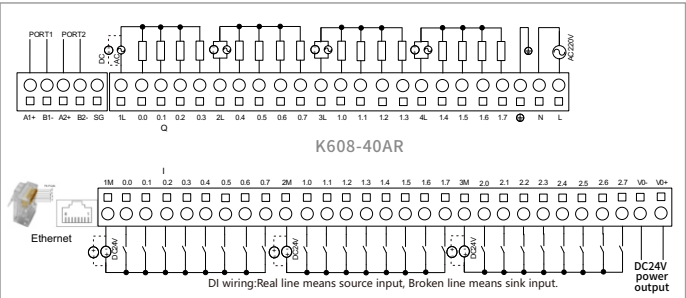
Power supply: AC100-240V power supply
Built-in I/O points: 40 I/O, DI 24*DC24V, DO 16*relay
Communication port: 1 *Ethernet, 2 RS485
Extended communication: BD board: 1 CAN or 1 RS232 + 1RS485
Connectable expansion modules: Yes. At most 14 expansion modules
Real-time clock: Yes
Installation size(mm): 186×114×76 (L×W×H)
Expansion BD Slot:2
Extension module: 14



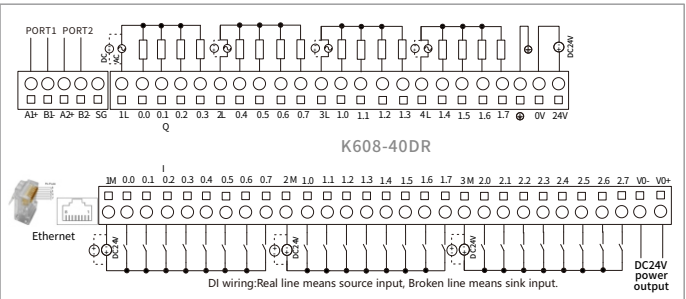
K608-40DR

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

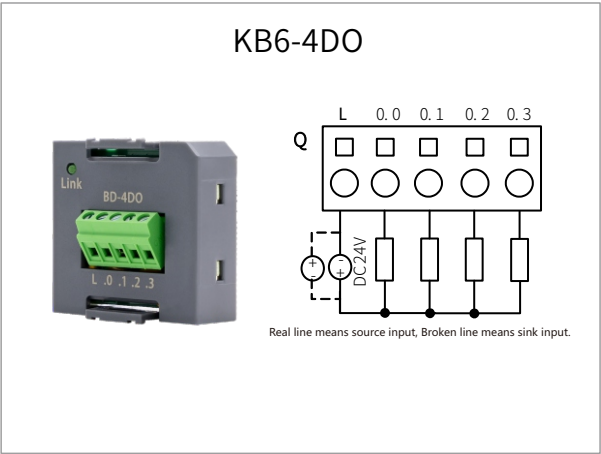
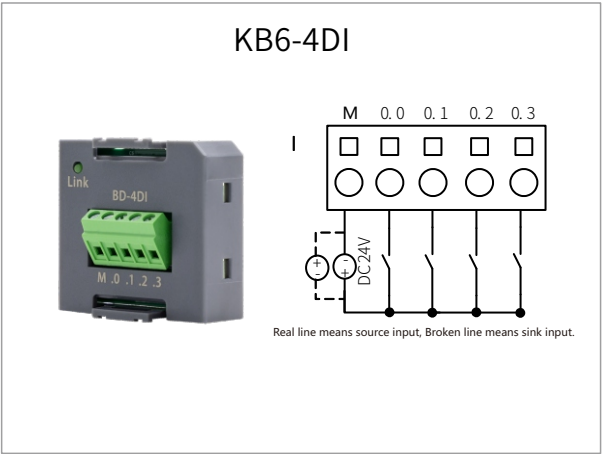
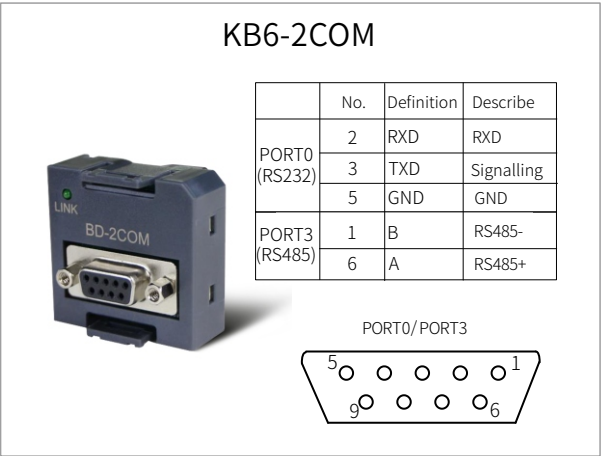
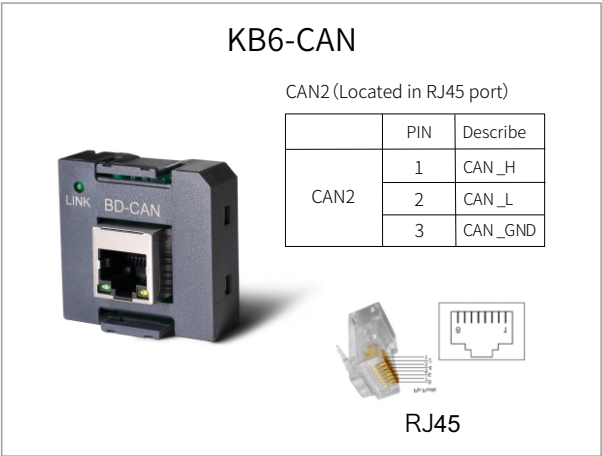
K608-40AR



K608-40DR



BD board wiring diagram



Switch Input Module **PM621**



K621-08DX

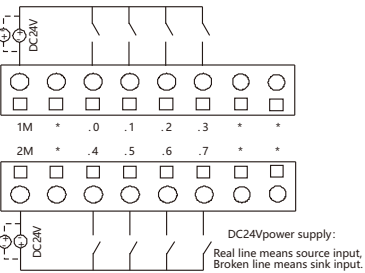
Input points: 8, divided into 2 groups, each group with 4 channels
Input type: Source/sink
Input voltage: Rated DC24V, voltage range of logic "1" is DC11~30V
Isolation mode: Opto-coupler isolation between input signal and internal circuit, isolation voltage 500VAC/1 min
Signal indication: Separated LED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



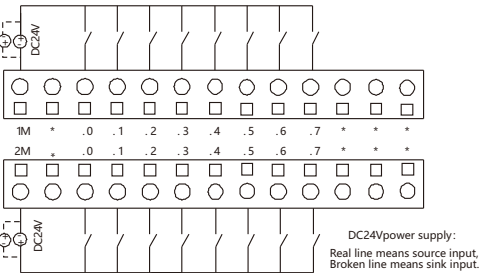
K621-16DX

Input points: 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 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

K621-08DX



K621-16DX



K622-08DT

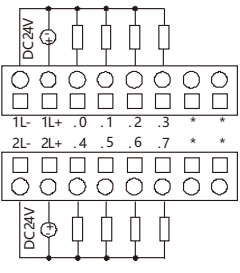
Output points: 8, divided into 2 groups, each group with 4 channels
Output type: Source
Output voltage: Rated DC24V, Maximum output current per channel is 500 mA
Circuit protection: Power supply access polarity protection, output short-circuit protection, inductive load protection
Isolation mode: Opto-coupler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



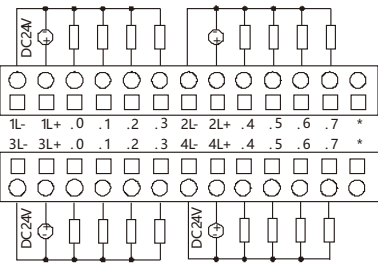
K622-16DT

Output points: 16, divided into 4 groups, each group with 4 channels
Output type: Source
Output voltage: Rated DC24V, Maximum output current per channel is 500 mA
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

K622-08DT



K622-16DT



Switch Output Module **PM622**



K622-08XR

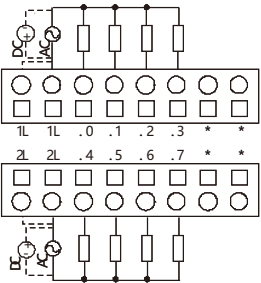
Output points: 8, divided into 2 groups, each group with 4 channels.
Output type: Relay.
Load voltage: Max. DC30V/AC250V, max. load current of each channel is 2A.
Isolation mode: The isolation voltage between the relay, coil, and contact is 2000Vrms
Signal indication: LED indicates for each separated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



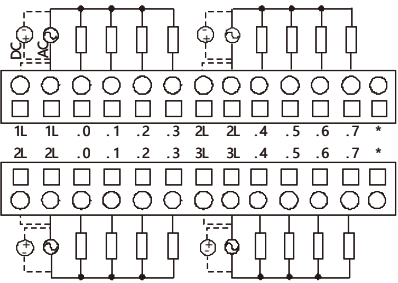
K622-16XR

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

K622-08XR



K622-16XR



K623-08DR

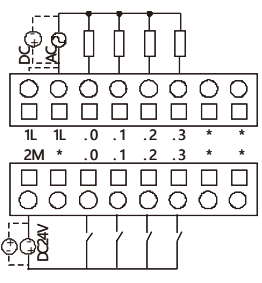
Input point: 4, totally classified into 1 group
Input type: Source (common-cathode)/sink (common-anode)
Input voltage: Rated DC24V, voltage range of logic "1" is DC11~30V
Output point: 4, totally classified into 1 group
Output type: Relay
Load voltage: Max. DC30V/AC250V, max. load current of each channel 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



K623-16DR

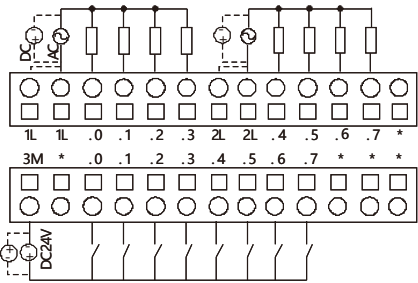
Input point: 8, totally classified into 1 group
Input type: Source (common-cathode)/sink (common-anode)
Input voltage: Rated DC24V, voltage range of logic "1" is DC11~30V
Output point: 8, divided into 2 groups.
Output type: Relay
Load voltage: Max. DC30V/AC250V, max. load current of each channel is 2A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

K623-08DR



Real line means source input, Broken line means sink input.

K623-16DR



Real line means source input, Broken line means sink input.

Switch Input/Output Module **PM623**



K623-08DT

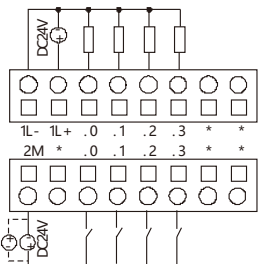
I/O point: 8, DI 4*DC24V, DO 4*DC24V
Input type: Source (common-cathode)/sink (common-anode)
Input voltage: Rated DC24V, voltage range of logic "1" is DC11~30V
Output type: Transistor
Output voltage: Rated DC24V, max. output current of each channel is 0.5A
Isolation mode: Opto-coupler isolation
Signal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



K623-16DT

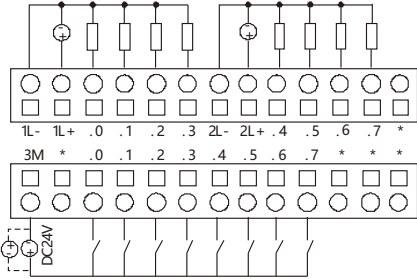
I/O point: 16, DI 8*DC24V, DO 8*DC24V
Input type: Source (common-cathode)/sink (common-anode)
Input voltage: Rated DC24V, voltage range of logic "1" is DC11~30V
Output type: Transistor
Output voltage: Rated DC24V, max. output current of each channel is 0.5A
Isolation mode: Opto-coupler isolation
Signal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

K623-08DT



Real line means source input, Broken line means sink input.

K623-16DT



Real line means source input, Broken line means sink input.

Analog Input Module **PM631**



K631-04IV

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



K631-04RD

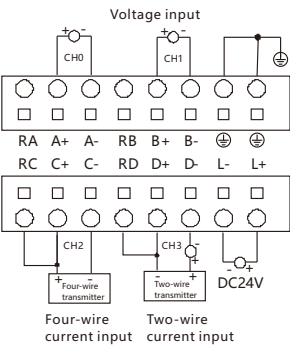
Input channel: 4
Input signal: Pt100, Cu50, Pt1000, Resistor are selectable, 2-wire or 3-wire
Measurement range: Pt 100 -200~850°C, Cu50 -50~150°C, Pt1000 -50~300°C, Resistor 0~2000Ω
Measurement accuracy: Temperature ±0.5°C, Resistance ±1Ω
Parameter configuration: Independent parameter configuration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



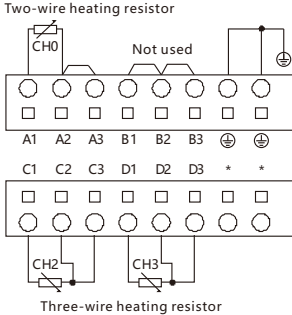
K631-04TC

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 -270~1000°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

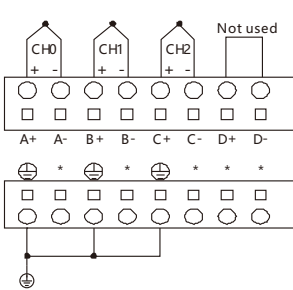
K631-04IV



K631-04RD



K631-04TC



Analog Output Module **PM632**



K632-02IV

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 **PM633**



K633-04IV

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
Module width: 50mm

Expansion Power Supply Module **PS680**

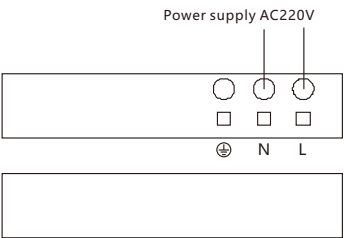


K680

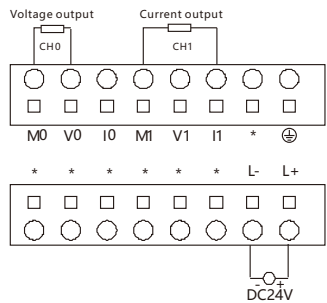
Voltage: AC85-265V
Output rated current: 5V 1A/24V 250mA
Signal display: PW light will be on when the power Supply is correct.
Module width: 75mm

- Main Features:**
- PS680 doesn't need to configure in software.
 - PS680 doesn't use the address of I/O image area.
 - PS680 won't be counted as CPU expansion module.
 - If the expansion modules are over 7 pieces, we suggest to use PS680.

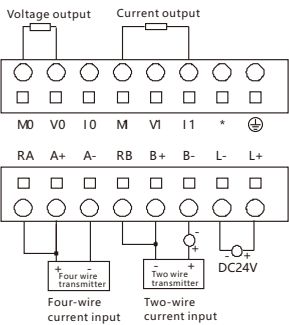
K680



K632-02IV

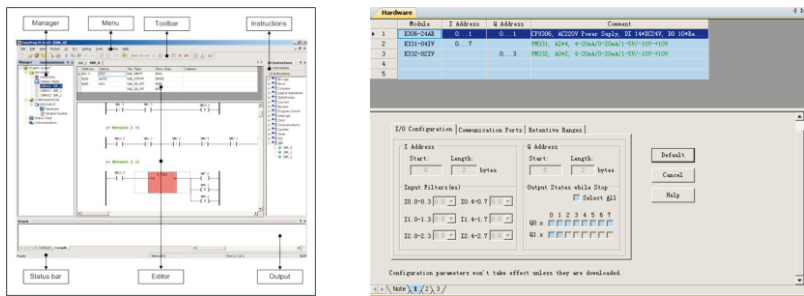


K633-04IV

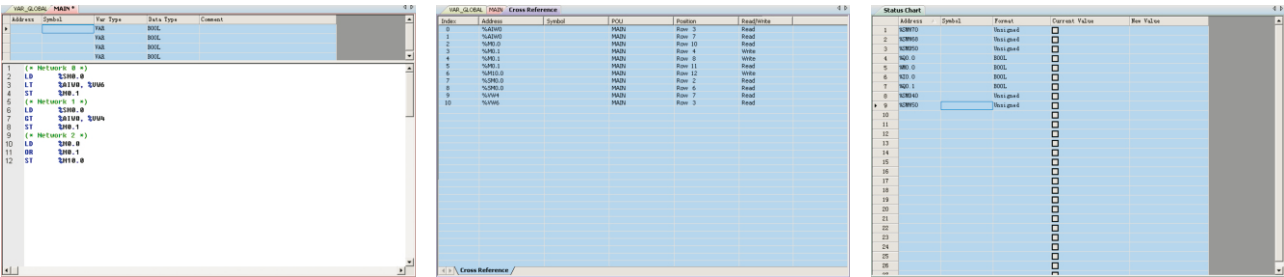


KincoBuilder complies with IEC61131-3 standard and is also compatible with PLC tradition, and its project architecture complies with the IEC61131-3 software model. It supports IL(instruction list) and LD(ladder diagram) languages, including 114 basic instructions and 420 expansion instructions. Meanwhile,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

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



LD Editor and Online Monitoring system configuration



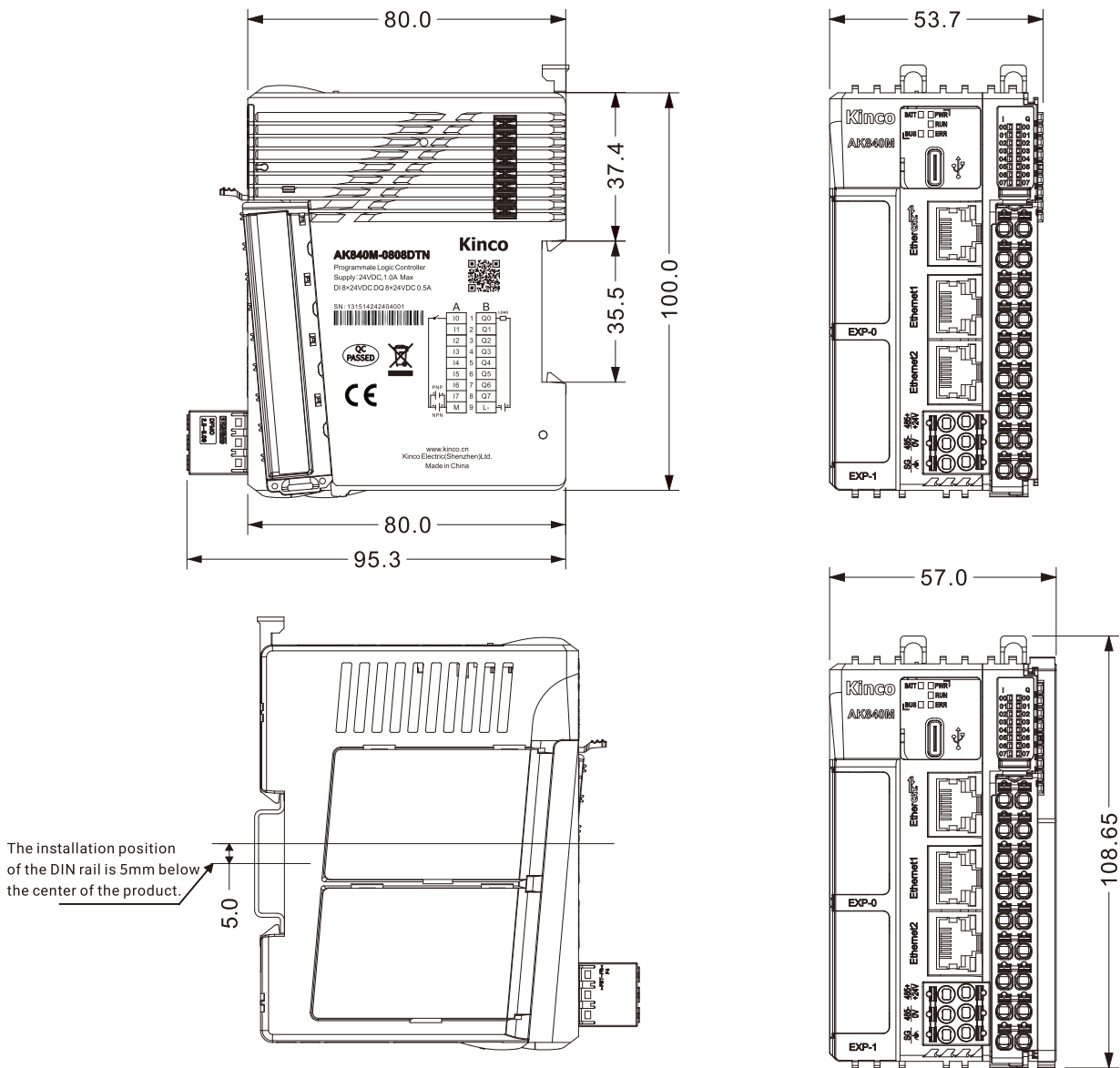
IL Editor Cross Reference Table Variable Status Table

Data Type Supported by KincoBuilder

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

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

■ Dimension Diagram



State-of-the-Art Medium-Sized Motion Controller

AK8X0 Series

The AK8X0 series products are a new generation of medium-sized motion controllers independently developed by Kinco, dedicated to meet diverse industrial control needs. They integrate advanced functions and performance, including EtherCAT bus motion control and high-speed backplane bus advantages.

Whether it is the synchronization of multiple workstations and robots in the industrial manufacturing industry, the complex process control and regulation in the food processing field, or the centralized control and monitoring of multiple areas or equipment through dual network ports in the logistics and warehousing industry, the AK8X0 series products can be flexibly applied to complex control scenarios in multiple industries with their outstanding design and performance, providing customers with reliable solutions and continuous operational support.

Kinco® Automation

www.en.kinco.cn Email:sales@kinco.cn

Add: Building 1, No.6 Langshan 1st Rd, Hi-tech Park North, Nanshan, Shenzhen, China. 518057

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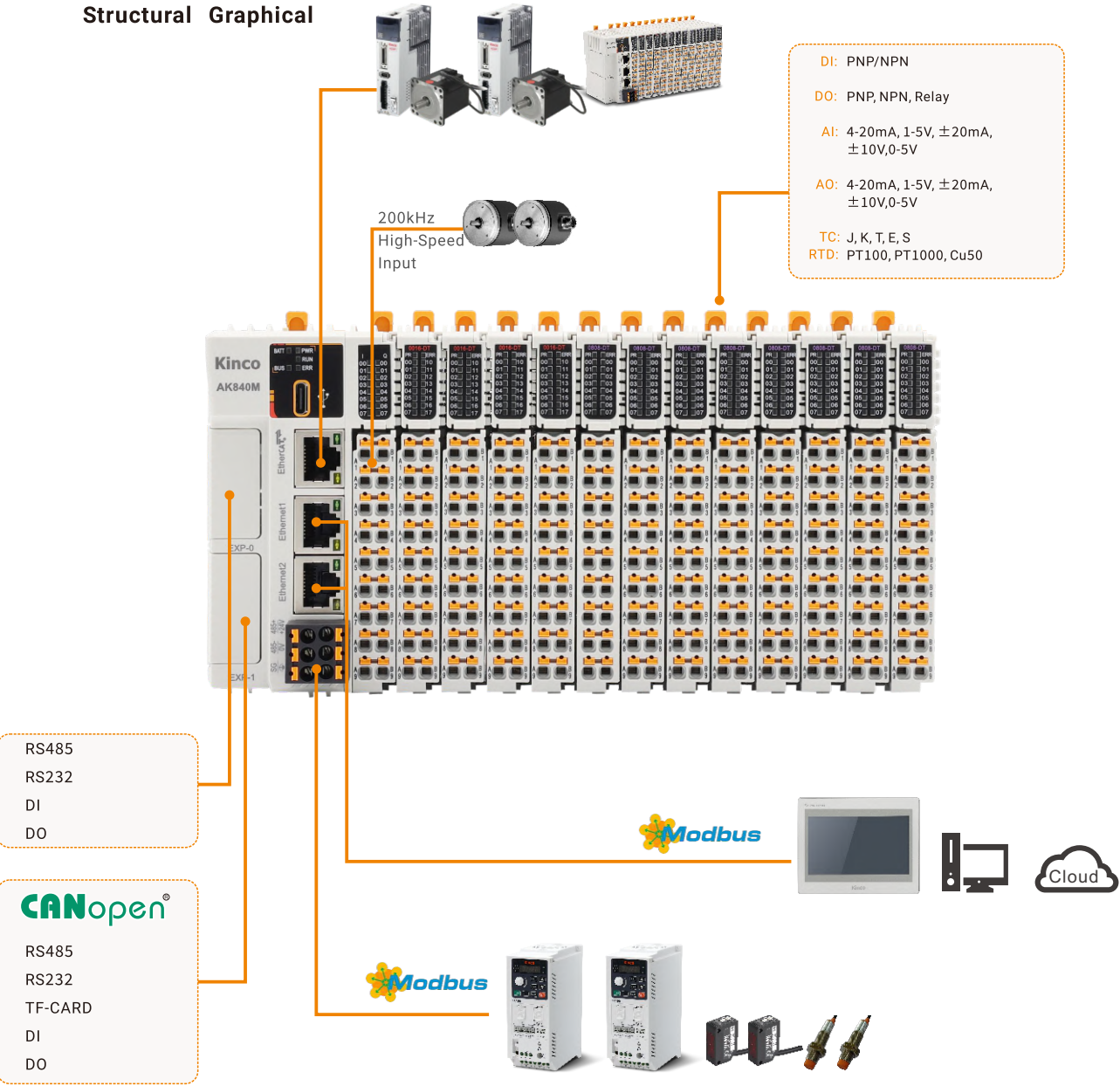
Standard Platform: Complies with IEC61131-3 International Standards, utilizing CoDeSys IDE for programming.

Motion Control Capability: Based on EtherCAT bus, supports up to 32 axes of synchronized motion control.

Modular Design: Modular and compact design, built-in 8 Digital inputs and 8 Digital outputs.



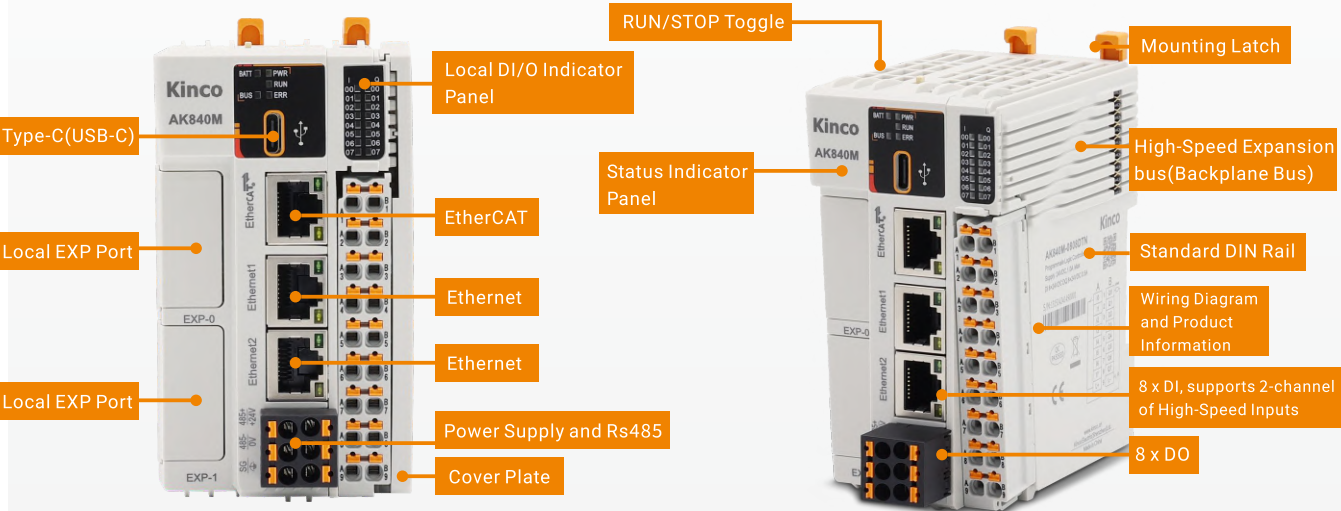
Structural Graphical



Product List

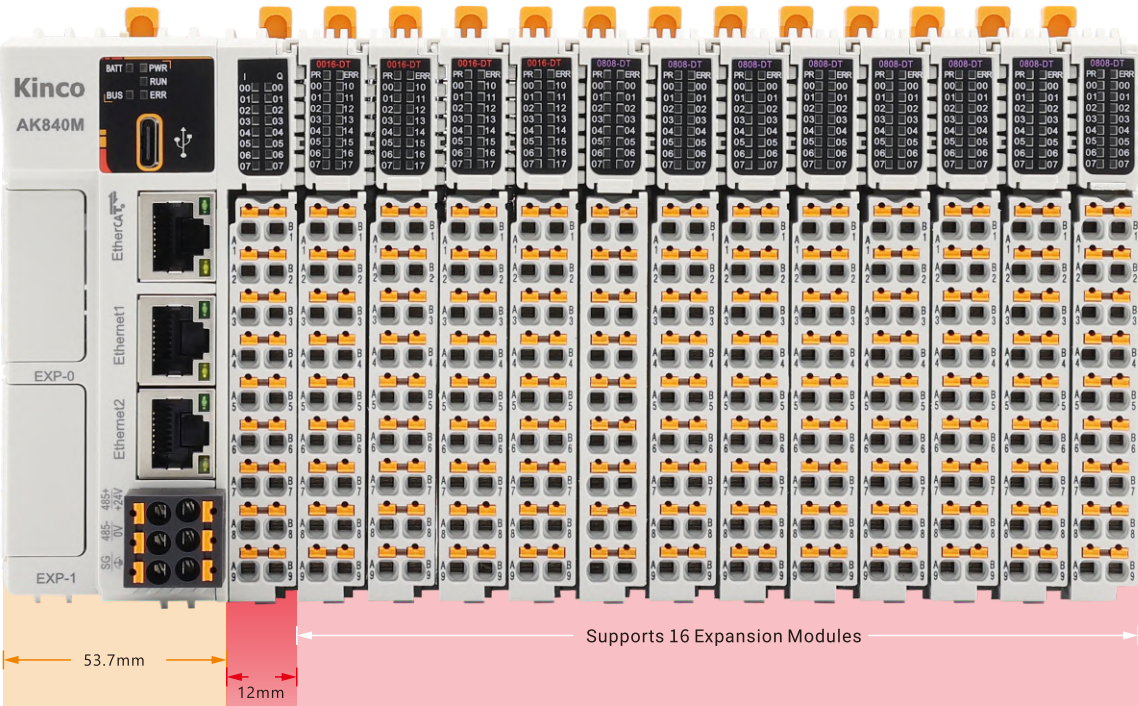
Order Model	Type	Description
AK840M-0808DTN	PLC	EtherCAT bus CoDeSys motion controller. 1 × EtherCAT: 8~32 axis synchronization (1~4ms, typical value: 1ms for 8-axis interpolation). 2 × Ethernet, 1 × RS485. DI 8 × 24V DC, sourcing/sinking, supports 2-channel of high-speed counters. DO 8 × 24V DC, NPN. Expansion capabilities (Backplane bus): supports up to 16 expansion modules.
AK840M-0808DTP	PLC	EtherCAT bus CoDeSys motion controller. 1 × EtherCAT: 8~32 axis synchronization (1~4ms, typical value: 1ms for 8-axis interpolation). 2 × Ethernet, 1 × RS485. DI 8 × 24V DC, sourcing/sinking, supports 2-channel of high-speed counters. DO 8 × 24V DC, PNP. Expansion capabilities (Backplane bus): supports up to 16 expansion modules.
RP20-0016DTP	Expansion Module	DO 16 × 24V DC, PNP.
RP20-0016DTN		DO 16 × 24V DC, NPN.
RP20-1600DT		DI 16 × 24V DC, Sourcing/Sinking.
RP20-0808DTP		DI 8 × 24V DC, Sourcing.
*RP20-0008DR		DO 8 × Relay output, normally open contacts(NO).
RP20-0400TC		AI 4 × TC, thermocouple type: J/K/E/S/T.
RP20-0400RD		AI 4 × RTD, sensor type: Pt100/Pt1000/Cu50.
RP20-0400IV		AI 4 × IV, 4-20mA/±20mA/±10V/1-5V.
RP20-0004IV		AO 4 × IV, 4-20mA/0-20mA/±10V/1-5V.
RP20-0202IV		AI 2 × IV, 4-20mA/0-20mA/0-10V/1-5V. AO 2 × IV, 4-20mA/0-20mA/0-10V/1-5V.
RP20-PW	Power Module	Powered by 24V DC, rated output: 5V DC, 2A.

Component Overview



■ Component Overview

Ultra-thin Module Design: Compared to traditional(Kinco) PLCs, it saves 70% in horizontal installation space.



18-Pin Plug-In Spring Terminals: Tool-free installation and efficient connections.



Model Suffix and Color Labels on the Front: Quickly identify module types without disassembly.

Color Lable	
Orange	Coupler
Azure(light blue)	Digital Input
Red	Digital Output
violet	Multi-DI/O
Green	Analog Input, I/V/RTD/TC
Yellow	Analog Output, I/V
Indigo(navy blue)	Multi-AI/O
white	Power Supply

Diverse I/O expansion, supports data acquisition, process integration, and various application scenarios.

DIN35 Rail Connection: Features a self-resetting function for the rail pull rod.



Double-Sided 8-Pin Terminal Block: Nickel-gold dual-plating technology ensures reliable transmission and durability between modules.

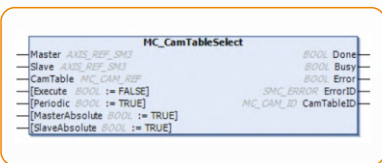
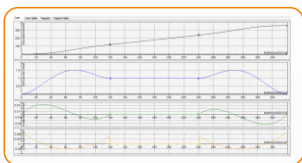
■ Component Overview



Motion Control

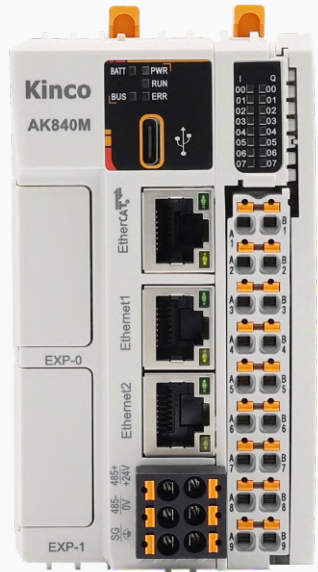
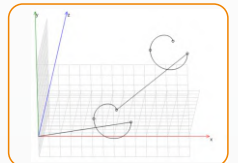
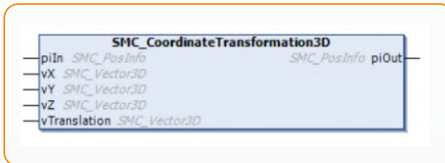
1ms 8 axes ~ 4ms 32 axes synchronized motion control (typical for electronic cam motion), JOG, ABS, PT PTP...

Electronic Gear/Cam



CNC/G-Code Functionality

Supports part of DIN 66025 CNC language function, allowing programming of geometric paths in the CNC object editor.



Megabit LVDS Backplane (Expansion) Bus

Microsecond-Level Data Refresh

■ Technical Specifications

Order Model	AK840M-0808DTN		AK840M-0808DTP	
Description	32-Axis EtherCAT Bus Motion Controller			
Technical parameters				
Supply Power Rated Voltage	24V DC +/-20%			
Supply Power Rated Power	6W(CPU unit only)/20W(Full-load)			
Power protection	Overcurrent Protection			
	Reverse Polarity Protection			
	Surge Absorption			
Communication interfaces	1 × EtherCAT, Minimum synchronization cycle: 1ms, maximum number of synchronized axes: 32 axes. Axis-control performance: 1ms, 8 axes synchronized motion control (typical MC: electronic cam).			
	2 × Ethernet, Both support Modbus TCP master/slave, with a maximum of 31 TCP slaves per channel.			
	Both support program upload and download.			
	1 × RS485, Supporting Modbus RTU master/slave protocol, supporting up to 31 Modbus RTU slaves			
	1 × USB OTG, Supports firmware updates via USB drive (FAT32 format)			
	8 × Digital inputs, supports PNP/NPN, supports 2-channel high-speed inputs, A/B phase and pulse/direction signals, with a maximum of 200KHz.			
	8 × Digital outputs, supports NPN		8 × Digital outputs, supports PNP	
Local bus(backplane bus)	Kinco dedicated K-bus backplane,			
Motion Control	8 to 32 axes, 1ms to 4ms, supporting electronic gearing, electronic cam, interpolation, and other motion control functions.			
Program Memory	32MB			
Data Memory	32MB			
Non-volatile Storage	1MB			
Indicators	PWR: Power status			
	RUN: Device operation status			
	ERR: Device error			
	BUS: Expansion bus error			
	BATT: Low voltage of backup battery			
Dimensions (W × H × D) mm	57 X 80 X 108			

■ General Specifications

Transportation and Storage Conditions		
Climatic Conditions	Ambient Temperature	-40℃～+70℃
	Relative Humidity	10%～95%,no condensation
	Atmospheric Pressure	equivalent to 0-3000 meters above sea level
Mechanical Conditions	Free Fall	With transport packaging, allows 5 drops from 1m height to the cement floor
Operating Conditions		
Climatic Conditions	Ambient Temperature	Open device with natural ventilation, ambient temperature range: -20℃ ～ 55℃
	Relative Humidity	10%～95%,no condensation
	Atmospheric Pressure	Altitude ≤2000 meters
	Pollution Level	Suitable for pollution level 2
Mechanical Conditions	Sine Vibration	5 < f < 8.4 Hz, Random: 3.5mm displacement; Continuous: 1.75mm displacement 8.4 < f < 150 Hz, Random: 1.0g acceleration; Continuous: 0.5g acceleration
	Shock	Half sine wave, 15g, 11ms, 6 times per axis
Electromagnetic Compatibility	EMC Immunity Level	Zone B, IEC61131-2
	Electrostatic Discharge	Air discharge 8kV, contact discharge 4kV
		Performance Leve A
	Surge	DC power supply 0.5kV CM, 0.5kV DM
		I/O and communication ports: 1kV CM
	Fast Transient Burst	Performance Leve A
Power coupling: 2kV, 5kHz.I/O and communication coupling: 1kV, 5kHz		
		Performance Leve A
Protection Level		IP20
Cooling Type		Natural air cooling
Installation Type		DIN35 rail mounting
Certification		CE(ENIEC61000-6-2:2019)