

Brochure Kinco HMI en plc systemen.V2012-01.

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The image shows the cover of a Kinco brochure. The background is red. In the top right corner, the Kinco logo is displayed in white. Below the logo, there are six circular images arranged in a 2x3 grid. The top row shows: 1) A PLC rack with a terminal block and a motor. 2) A servo motor. 3) A PLC module. The bottom row shows: 1) Three HMI touchscreens of different sizes. 2) A servo motor. 3) A terminal block. Below the images, the text 'Products Catalog' is written in white. Underneath, there are two columns of bullet points: '- HMI', '- Servo System', '- Stepper System' on the left, and '- PLC', '- VFD', '- Field bus' on the right. At the bottom, the text 'Automation Solutions for Global Customers' is written in white on a black background. There is a small white square on the left side of the red background.

Kinco®

Products Catalog

- HMI
- Servo System
- Stepper System
- PLC
- VFD
- Field bus

Automation Solutions
for Global Customers

CONTENTS

1



Human-Machine Interface

Kinco is a leader of China industrial HMI market. Full line of products, easy-to-use screen edit software and impressive cost performance are the unique competitive edge of Kinco HMI.

-MT6000 -MT5000
-MT4000 -Text HMI

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Kinco PLC

Kinco PLC win low-end and middle-end customers' approval with its outstanding cost performance and concise practical functions.

Products: K3 series.

2



Servo System

CD series general purpose servo system are designed to be a product of high efficiency, high reliability and user-friendly. CD is suitable for applications requiring single-axis positioning, velocity and torque control.

Products: CD420/430/620/630 series

ED series are programmable servo drivers with field bus. The internal sequence programming function makes it can complete multi-axis synchronization, linkage control and real-time control. So in the ED servo, it has driver, control, fieldbus, I/O functions and so on, it can optimize the whole system.

Products: ED430/ED630 series.

5



VFD

Kinco vector VFD undertakes the company concept of "Provide high quality, high performance, high stability products", it is a high performance vector VFD.

FV100 series is closed loop vector VFD, has V/F, open vector, closed vector control function. And the closed loop vector control level is at the leading position of china.

SV100 series is open loop vector VFD, has V/F, open vector control function. Besides the high performance vector control, it is also high cost-effective.

3



Stepper System

Kinco owns full line of stepper products. Kinco Classic Series stepper has a long reputation of reliable quality and good cost performance; the brand new N Series stepper utilize complete digital technology derived from servo technology platform imported from Germany. N Series is widely used in electronic manufacturing, laser device, engraving, packaging and medical device industries.

-N Series high performance full-digital stepper driver
-Classic Series stepper driver
-Stepper motor

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Field Bus Products

Many of Kinco's products are capable of field bus communication, including HMI, PLC, servo drivers, I/O modules incorporating Ethernet/CANopen/Profibus-DP connectivities.

HMI



■ Technical Specification

Model:	MT6300C	MT6300T	MT6400T	MT6500T
	MT6300C-CAN	MT6300T-CAN	MT6400T-CAN	MT6500T-CAN
Size of Display	5.6"	5.7"	8"	10.4"
Resolution	320 × 234	320 × 240	640 × 480	640 × 480
Color	65536 colors	65536 colors	65536 colors	65536 colors
Brightness	300cd/m ²	500cd/m ²	350cd/m ²	400cd/m ²
CPU	32-bit 520MHz RISC			
Backlight	LED	1CCFL	1CCFL	2CCFL
Power Consumption	7.2W	7.2W	10.8W	12W
Rated Voltage	DC 24V	DC 24V	DC 24V	DC 24V
Operation Temp.	0~45°C	-10~70°C	0~45°C	0~45°C
Cutout Size	192 × 138mm	192 × 138mm	224 × 161mm	298 × 218mm
Weight	1.12kg	1.12kg	1.28kg	1.97kg
CE Certificate	EN61000-6-2:2005, EN61000-6-4:2007			
FCC compliance	Comply with FCC Class A directory			
Notes	MT6000 pre-install WinCE5.0 pro OS; MT6000-CAN pre-install WinCE5.0 core OS.			



■ Introduction:

MT5000 series HMI are designed for the high-end market. The powerful Marvell PXA270 RISC CPU and built-in Linux OS ensure the high performance of MT5000. Besides the impressive speed, MT5000 series feature field bus interfaces Profibus-DP/CANopen.

■ Features:

1. Support Profibus-DP/CANopen/MPI interfaces, support network configuration with MPI protocol;
2. USB Host/Client interface and SD card slot for mass data storage;
3. Optional video input and audio output for multimedia applications;
4. Ethernet interface and optional OPC server software available;
5. Data exchange between any two communication ports.



■ Technical Specification

Model	MT5320C	MT5320T	MT5423T	MT5520T	MT5620T	MT5720T
	MT5320C- CAN/DP/MPI	MT5320T- CAN/DP/MPI	MT5423T- CAN/DP/MPI	MT5520T- CAN/DP/MPI	MT5620T- CAN/DP/MPI	MT5720T- CAN/DP/MPI
Size of Display	5.6"	5.7"	8"	10.4"	12.1"	15"
Resolution	320 × 234	320 × 240	800 × 500	640 × 480	800 × 600	1024 × 768
Backlight	LED	1CCFL	LED	2CCFL	2CCFL	2CCFL
Operation Temp.	0-45°C	-10-70°C	0-45°C	0-45°C	-10-65°C	0-50°C
Cutout Size	192 × 138mm	192 × 138mm	224 × 161mm	296 × 216mm	327 × 241mm	367.5 × 294.5mm
Notes	CANopen 2.0 protocol supported; Profibus-DP client node MPI multi-nodes network supported.				Aluminum die front panel; CANopen 2.0 protocol supported; Profibus-DP client node MPI multi-nodes network supported.	

MT4000 series HMI with best value

MT4000 series HMI feature 32-bit RISC CPU and reliable Linux OS



Introduction:

MT4000 series HMI feature 32-bit RISC CPU and reliable Linux OS. True color display, fast speed and abundant software functions make MT4000 suitable for most industrial automation applications. MT4000 support over 200 different PLCs from major suppliers, customized communication drives are available. MT4000 is your choice for data acquire and machine control.

MT4000 series have the functions of direct online simulation, indirect online simulation and have high capacity memory to store user program, also support the standard C language macro. It can complete the

applications of data connection, calculation, controlling and so on quickly and effectively.

Features:

1. Vivid display with 65536 colors, support import of BMP, JPG and GIF pictures;
2. 32-bit RISC CPU ensures fast response;
3. Full line from 4.3" up to 12.1";
4. MT4000E series support 10M/100M self-adaptive ethernet port;
5. Strong Kinco HMWare functions, supports C language macro code.



Technical Specification

Model	MT4210T	MT4310C		MT4404T(E)			MT4512T(E)			
	MT4220TE	MT4300C(E)	MT4300T(E)	MT4424TE	MT4414T(E)	MT4403T(E)	MT4522T(E)	MT4500T(E)	MT4523T(E)	MT4620TE
Size of Display	4.3"	5.6"	5.7"	7" (16:9)	7" (16:9)	8"	10.1"(16:9)	10.4"	10.4"	12.1"
Resolution	480 x 272	320 x 234	320 x 240	800 x 480	800 x 480	800 x 600	800 x 480	640 x 480	800 x 600	800 x 600
Backlight	LED	LED	1CCFL	LED	LED	LED	LED	2CCFL	LED	LED
Operation Temp.	-20~55℃	0~45℃	-10~70℃	0~45℃	0~45℃	-10~45℃	0~45℃	0~45℃	0~45℃	-10~55℃
Cutout Size(mm)	145 x 81	192 x 138	192 x 138	193.5x112.5	192 x 138	224 x 161	298 x 218	298 x 218	298 x 218	340 x 250

Software Description



Learn compiling macro commands in ten minutes

Macro codes compatible with standard C language can be triggered in multiple methods, featuring powerful function and flexible use.

In the past

Most HMIs in the market use respectively defined script languages, lack of versatility, which are hard to learn since there is no sufficient reference resources, and furthermore they cannot be implanted into other HMI panels.

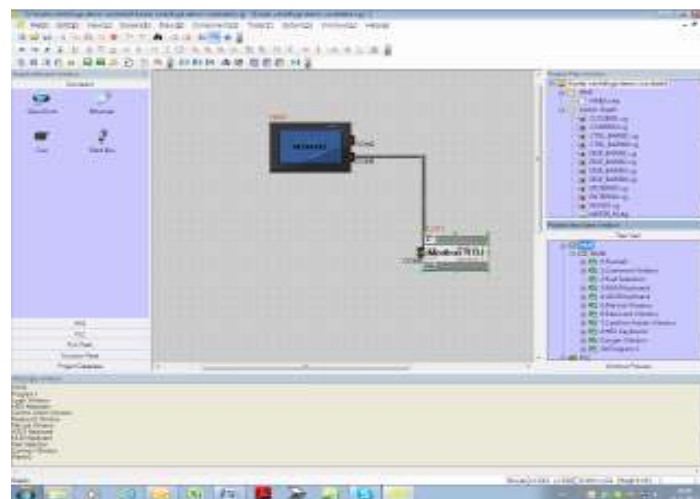
Present

The EV5000 provides unique macro instruction compilation fully compatible with the standard C language. If you are familiar with the C language, you can learn how to code macro instructions in ten minutes. The rich reference documents, powerful function, and easy portability greatly enhance the macro command function of the EV5000.



Kinco programming software for HMI displays MT4000 – 5000 Series.

KINCO-HMI WARE V1.06EN



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Field Bus Products



■ MT5000 Series HMI as Field Bus Client Node

- 64K color display, from 5.6" to 15";
- Client node compatible with CANopen 2.0A/B protocol, max. baud rate 1Mbps;
- Client node for Profibus-DP network, baud rate auto-adapt.



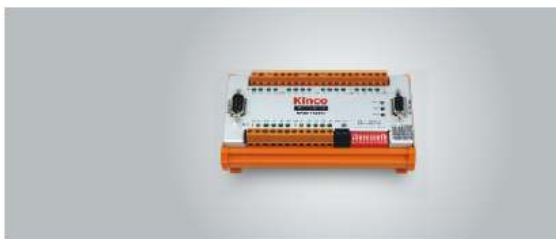
■ MT6000 Series as CANopen Master Node

- 64K color TFT display, from 5.6" to 12.1";
- WindowsCE 5.0 OS pre-installed;
- With CoDeSys softPLC from 3S, MT6000 can be used as a CANopen master controller.



■ F1 series CAN master PLC

- High performance 32 bits 520MHz RISC CPU ensure the high calculating speed;
- Supports CANopen 2.0 protocol;
- Supports emergency message, node protection, heartbeat message and can set the start process of slave;
- Supports various baud rate:10K/20K/50K/125K/250K/500K/800K/1M;
- Can manage the error of slave.



■ CANopen, Profibus Client Node Remote I/O Module

- IP20 and IP67 protection for different environment;
- Communication parameter configuration via hardware;
- Support CANopen 2.0 and Profibus-DP protocol.

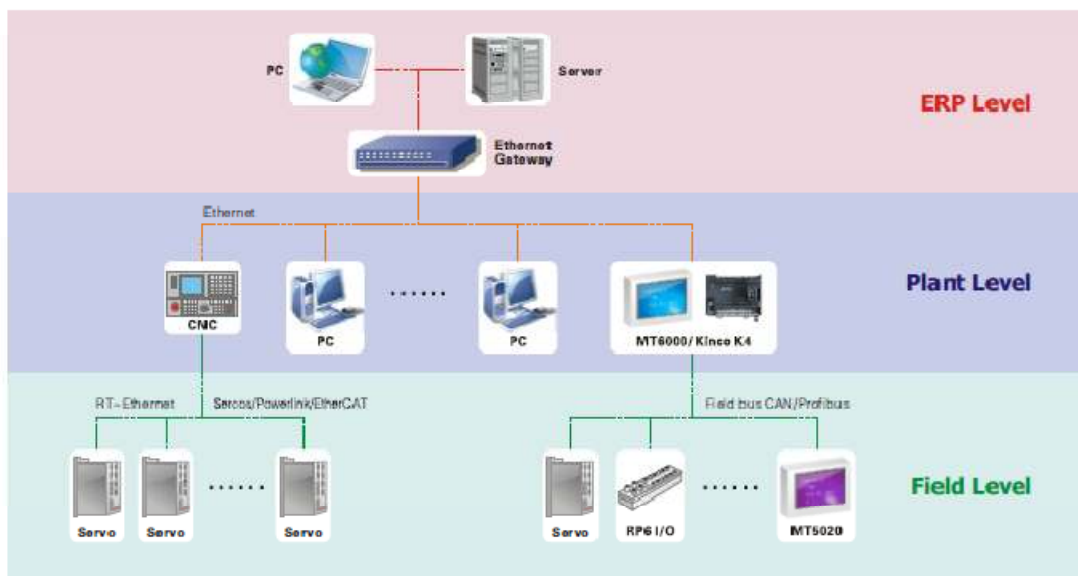
Field bus technology is one of the hottest topics in automation industry now. Kinco recognized and tracked that trend for a long time. Kinco has developed products capable of field bus communication. Kinco owns HMI, PLC and servo drivers incorporating field bus connectivity like CANopen, Profibus-DP and Ethernet. Those field bus-ready products can be used in many different applications.



Profibus-DP bus gateway



Kinco RP2 I/O module



1. High performance CPU

- High performance CPU of 32 bits 520MHz RISC;
- Excellent in processing the Boolean data and easy to operate the integer and float data;
- Use the multi-task operation system(Main task, fast task and event task), the processing of millisecond timescale task will be very simple, you can regulate it according to the application, and needn't consider other factors;

2. Strong developing function

- Use the Codesys software of German 3S Company to program. Which is the most famous company for PLC core software development;
- Provide 6 IEC programming languages, graphical programming tool, senior online help and amount of data inputting help guide. You can test the program in the simulator after developing. Users can customize library functions, all the commonly functions are appear in fixed form to reduce the user's programming time and difficulty;
- Support remote downloading/monitoring, it is easy for users to remote debugging.

3. Perfect hardware protection measures

- Short-circuit protection for power supply, the module use resettable fuse, it can reset itself after the module got a short-circuit.
- Short-circuit protection for inputting, digital input module use resettable fuse, it can break when the input gets a short cut, and when the short-circuit recovers, it can reset itself, so that protect the input circuit from burning out.

4. CANopen bus communication ability

Support CANopen 2.0 protocol that is defined by the CIA organization , so it can communicate with devices which support this protocol, like remote I/O module, servo, inverter, meter and so on. It can apply to various production lines, mechanical equipments, intelligent buildings and so on.

5. Support various communication speed

Satisfy various application situations, support the followings baud rates: 10k/20k/50k/125k/250k/500k/800k/1M

6. Perfect CANopen software function

- Support the NMT message
- Support the Node Protection message
- Support the Heart beat message

7. Perfect PDO communication mode

- Support asynchronous communication mode
- Support synchronous message communication mode, real time of data exchanging is very high.

Model	F122-D1608T
Software technical data	
Scanning Period	Min.1ms
Program Capacity	2M
Execution Speed	Arithmetic operation time for integers: min 3.4μs/1000AWL Arithmetic operation time for floating points: min 0.13ms/1000AWL Arithmetic operation time for triangle function: min 6.0ms/1000AWL
Programming Language	According with the IEC61131-3 standard
COM Port	2 CAN ports, 1 Ethernet port, 2 serial ports(RS232, RS485)
Communication Protocol	CANopen 2.0A
Synchro Message	Support
NMT Message	Support
PDO Communication	Asynchronous, synchronous and remote requests
Baud Rate(bps)	10K(1,000 m)/20K(800 m)/50K(600 m)/125K(500m)/250K(250m)/500K(100m)/ 800K(50 m)/1M(25 m)
Station Number	1-127
Hardware Technical data	
Power Supply	Rated: +24V/1A, (<+20V<U<+30V), Reset itself, the longest time for losing electric is 10ms
CAN Power Supply	Provide power by internal +5V power supply itself
Digital Input\ Digital Output	16DI\8DO
Digital Input Type	Photoelectric isolation, supports both low and high level
Digital Output Type	Photoelectric isolation, Transistor high level output, the maximum output current is 500mA; Over current protection (Recover by itself)
Voltage Range of Digital Output	±24V (15~36VDC), Input current>3mA
Digital Output Frequency	1KHz@24V500mA
Operating temperature	-10°C~55°C
Storage temperature	-20°C~70°C



Programable Controller

Kinco PLC



CPU

CPU306



K306-24DT

DC24V power supply, provided with 24 I/O, DI14 * DC24V, DO * 10DC24V, a maximum output current of 0.75A for each channel

K306-24AT

AC85-265V power supply, provided with 24 I/O, DI14 * DC24V, DO10 * DC24V, transistor output, a maximum output current of 0.75A for each channel.

K306-24DR

DC24V power supply, provided with 24 I/O, DI14 * DC24V, DO10 * DC24V, relay output, a maximum output current of 3A for each channel.

K306-24AR

AC85-265V power supply, provided with 24 I/O, DI14 * DC24V, DO10 * relay, a maximum output current of 3A for each channel

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CPU306EX



K306EX-24AT

AC85-265V power supply, provided with 24 I/O, DI14 * DC24V, DO10 * DC24V, two serial communication port (RS232/RS485, RS485).

K306EX-24AR

AC85-265V power supply, provided with 24 I/O, DI14 * DC24V, DO10 * relay, two serial communication port (RS232/RS485, RS485).

CPU

CPU308



K308-40AR

AC85-265V power supply, provided with 40 I/O, DI 24 * DC24V, DO16 * relay, a maximum output current of 3A for each channel.

K308-40AT

AC85-265 power supply, provided with 40 I/O, DI24 * DC24V, DO16 * DC24V, transistor output, a maximum output current of 0.75A for each channel.

K308-40AX

AC85-265V power supply, provided with 40 I/O, DI24 * DC24V, DO8 * DC24V transistor /8relay, a maximum output current of 0.75A/3A for each channel.

CPU Module
Expansion I/O Module



Expansion I/O Module

DI PM321



K321-08DX
DI8*DC24V



K321-16DX
DI16*DC24V

Expansion I/O Module

AI PM331



K331-04IV
AI4*IV, 4-20mA/0-20mA/
1-5V/-10-10V optional



K331-04RD
AI4 * RTD (Pt100/Cu50,
2-wire or 3-wire)

Expansion I/O Module DI/DO PM323



K323-08DTX
DIO8 * DC24V/8 * DC24V Input/output multiplexing, a maximum output current of 0.75A for each channel



K323-08DR
DI4 * DC24V, DO4 * relay, a maximum output current of 3A for each channel



K323-16DR
DI8 * DC24V, DO8 * relay, a maximum output current of 3A for each channel

Expansion I/O Module AO PM332



K332-02IV
AO2 * IV, 0~20mA/4~20mA/
-10V~-10V/1~5V optional

AI/AO PM333



K333-03IV
AI 2 * IV, 4~20mA/0~20mA/
1~5V/-10~10V optional
AO 1 * IV, 4~20mA/0~20mA/
1~5V/-10~10V optional



K333-04IV
AI 2 * IV, 4~20mA/0~20mA/
1~5V/-10~10V optional
AO 2 * IV, 4~20mA/0~20mA/
1~5V/-10~10V optional

Module Arrangement



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

Left part of each expansion module, a cable slot is designed. The expansion cable can be put in the cable slot to ensure seamless interconnection between modules after installation.

Kinco

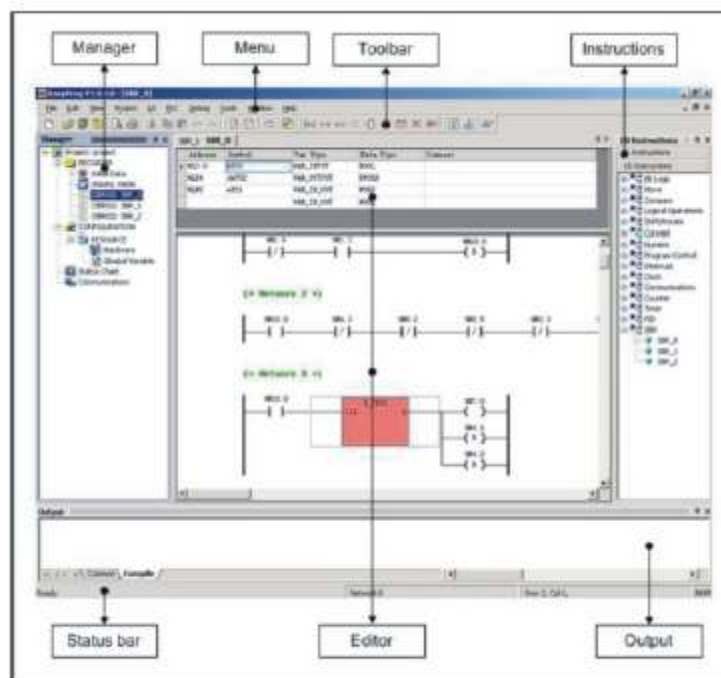
Kinco Builder

PLC software.

KincoBuilder is the programming software for the Kinco-K3. It complies with IEC61131-3 standard and is also compatible with PLC tradition. It supports IL (Instruction list) and LD (Ladder diagram) languages, and its project architecture complies with the IEC61131-3 software model.

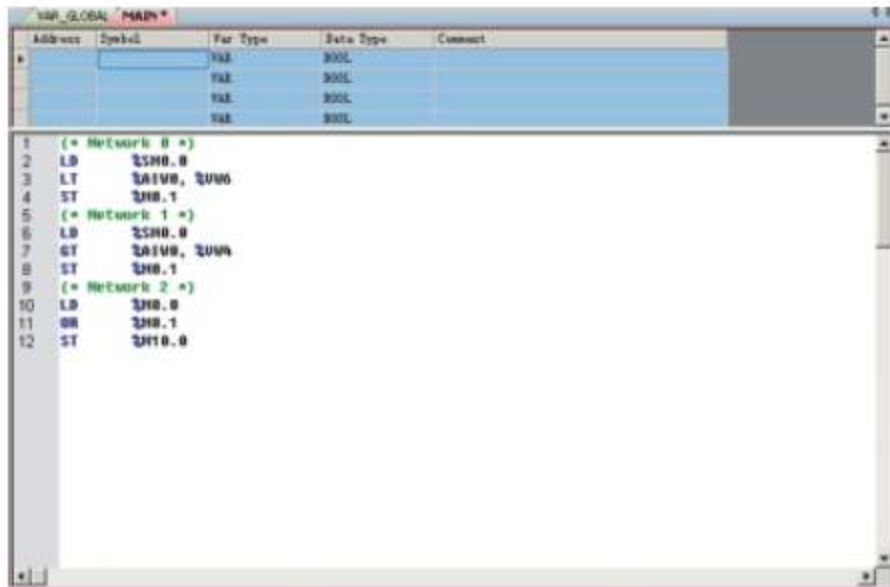
Kinco-K3 provides 114 basic instructions and 420 expansion instructions. Meanwhile, it supports a number of special functions, such as interrupt (I/O interrupt, communication interrupt and time interrupt), and special I/O functions (high-speed counter, PTO/PWM output, etc.) Therefore, it is applicable to control applications in a diversity of fields.

With the debugging tool of KincoBuilder, the user can monitor online/force variables update programs (three-level password protection), as well as view diagnostic messages and so on. The Windows style design enables a user to manage the program conveniently. With the engineering manager and toolbar, the user can perform quick operations such as adding, deletion, error checking, cross reference, printing, and backup of a file.



LD Editor and Online Monitoring

PLC programmeer software Kinco Builder IF, IL, en LAD functies.



IL Editor

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



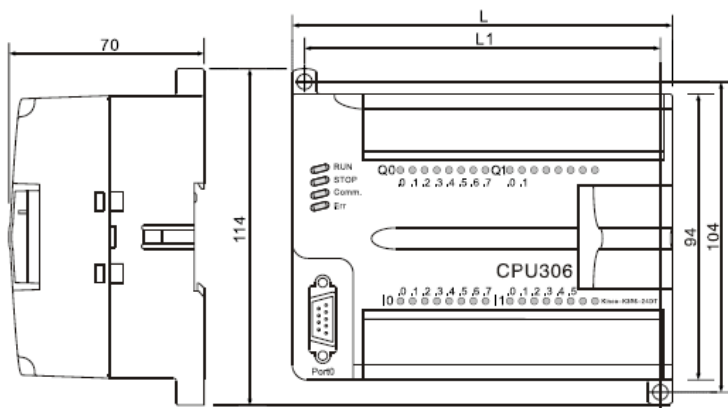
OPC Server en Can-bus configuratie software.



Part Name

1. I/O status LEDs
2. CPU status LEDs
3. Programming interface (RS232)/Communication port (RS485)
4. Wiring terminal
5. 35mm DIN rail Clip
6. M4 mounting hole
7. Cover plate for terminal
8. Expansion port
9. Cover plate for expansion port

Schematic Diagram for Installation of 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.