2016

HAIWELL PLC

Catálogo de Productos

AUTOMATA PROGRAMABLE CON SOFTWARE DE PROGRAMACION CON SIMULACION 100%

FACIL DE APRENDER Y FACIL DE UTILIZAR.

XIAMEN HAIWELL TECHNOLOGY CO., LTD.

www.haiwell.com

Haiwell PLC is a versatile high-performance programmable logic controller, which is widely used in plastics, packaging, textiles, food, medical, pharmaceutical, environmental, municipal, printing, building materials, elevators, central air conditioning, numerical control machine tools and other fields of systems and control equipment. In addition to its own various peripheral interfaces (digital input, digital output, analog input, analog output, high-speed counter, high-speed pulse output channels, power supply, communication ports, etc.), it is also expandable with all types of extension modules for felixable configuration.

Haiwell company owns the 100% independent intellectual property rights over both its hardware and software products, all products can be customized according to customer's requirements to meet the different needs of various industries.

7 Characteristics

- **Quality Guarantee:** In accordance with IEC-61131 international standard develop
- **Independent Property Rights:** 100% independent intellectual property rights, OEM/ODM are supported
- **Built-In Simulator:** First one built-in 100% simulator programming software, easy to study and easy to use
- **Motion Control:** Support linear interpolation, ARC interpolation, original point return, backlash compensation, electric original point redefine
- **High Openness:** Support 5 communication ports simultaneous working, may constitute N:N network
- **Communication Function:** Support Modbus RTU/ASCII, Haiwellbus high speed protocol, freedom protocol
- **Distributed IO:** Module with built-in communication port can be installed distributedly as a remote IO unit

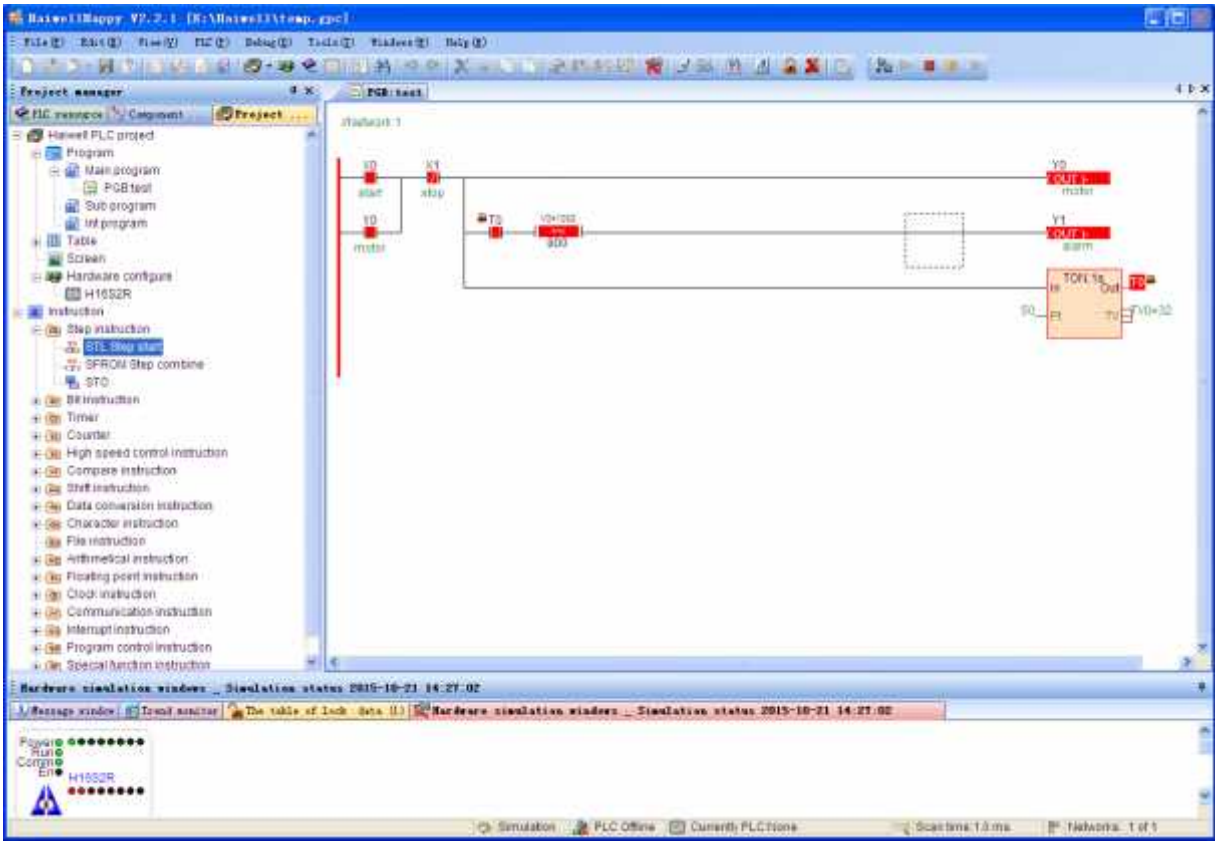
Haiwell PLC Features

- **The firmware upgrade function:** Taking the lead in the function of realizing firmware upgrade in a small programmable controller. You can upgrade the system firmware through the firmware upgrade function free, herefore you bought the products previously can also have new features from Haiwell company.
- **Rich network communication function:** CPU host built two communication ports, which can be expandable to five communication ports, each port can be programmed and connects to network, and all of them can be used as masters or slaves. It can support 1: N, N: 1, N: N networking and a variety of man-machine interface and configuration software. It can also connect to network with any third-party devices which have communication capabilities (such as inverters, instruments, barcode readers, etc.).
- **Supporting for multiple communication protocols:** It has internally installed Modbus RTU / ASCII protocol, free communication protocol and the Haiwellbus high-speed communication protocols of Xiamen Haiwell Technology Co., Ltd. Owning to the most convenient communication instruction system, no matter what kind of communication protocols, it only simply needs a communication instruction when dealing with complex communication functions. You will no longer troubled by the problems, such as communications port's conflicts, sending and receiving control, communications interrupt handling issues and you can use a variety of protocols to exchange data easily by mixing them up in the program.
- **High-speed pulse counting function:** Supports 8-channel duplex high-speed (200KHz) pulse counting, counting mode supports 7 kinds (pulse / direction 1 octave, pulse / direction 2 octave, forward / reverse pulse 1 octave, forward / reverse pulse 2 octave, A / B phase pulse 1 octave, A / B phase pulse 2 octave, A / B phase pulse 4 octave), and three kinds of comparisons (single-stage comparison, the absolute mode comparison, the relative mode comparision), supports 8 segments comparision fixed value, with self-learning function.
- **High-speed pulse frequency measurement:** Supports 16-channel (200KHz) high-speed pulse frequency measurement, support the ways of time or pulses to measure the frequency
- **High-speed pulse output:** Supports 8-channel duplex high-speed (200KHz) pulse output, support for acceleration and deceleration pulse output, multi-segment envelope pulse output function, a unique sync pulse output function makes it easy to achieve precise synchronization control. Stand-alone support 16-channel pulse width modulation (PWM), can drive 16 servo or stepper motors.
- **Motion control function:** Each model support for 8-channel (200KHz) motion control, supports arbitrary 2-channel linear interpolation, circular interpolation, support follower pulse output, absolute address, relative address, backlash compensation, original point return, definition of electrical origin.
- **PID control function:** support 32 channels increment PID, support 32 channels auto tuning PID and 32 channels fuzzy temperature control, work with TTC temperature curve control, VC valve control and other instructions to easily control complicated objects in the industry site.
- **Edge capture and interrupts:** CPU supports 8-channel up and down along the catch and interrupt functions, all digital inputs support signal filtering settings, all digital outputs remains set to support power output. Provide 52 real-time interrupts.
- **Powerful analog processing function:** AI register accesses the analog input directly, analog input support engineering conversion, sampling frequency settings, and zero correction. Available AQ registers control the analog output directly, analog output support engineering conversion and can be configured to maintain output.
- **Strong password protection function:** Three levels of password protection function (program files password, each block password, PLC hardware password) and prohibits the application to upload.
- Self-diagnostic function, power failure protection function, calendar (RTC), floating point operations, etc.

Haiwell PLC with 16 encoders

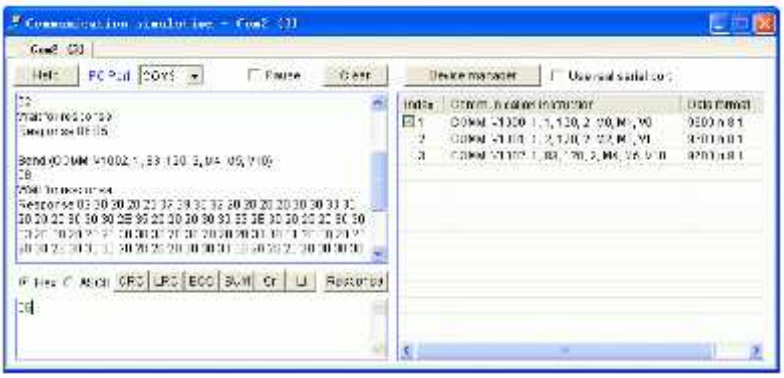
Haiwell PLC with 16 servos

HaiwellHappy Programming Software

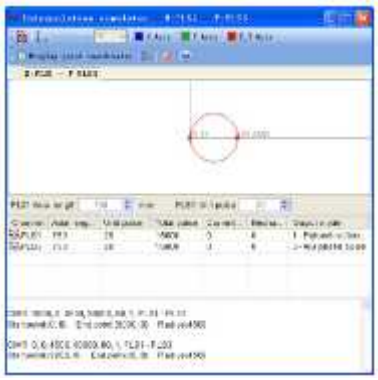


HaiwellHappy is a programming software which is in accordance with IEC 61131-3 standard. It can be used for Haiwell PLC programming. Furthermore, it supports 100% built-in simulator and three kinds of programming languages (LD-Ladder Diagram, FBD-Function Block Diagram and IL-Instruction List). It can run on the systems of Windows 98, Windows 200X, Windows XP and the later Windows version.

Communications Simulator



Interpolation Simulator



HaiwellHappy Features

- **Internal PLC simulator:** Haiwell PLC programming software is the first one with internal simulator in China, realizing the PLC program run in the simulation. During programming or the programming is completed, you can run PLC program in the simulation without online to check the program execution is correct or not. It can reduce on-site commissioning time greatly, reduce debugging difficult and improve debugging efficiency.
- **Communications simulator:** It is used to the debug communication instruction simulation tools. It can be manually input simulately response message returned from salve, or you can use the computer's serial port to communicate with salve really, Simulate the process that PLC executes communication instruction really and process the return data from the salve.
- **Interpolation simulator:** Track and draw the trajectory generated from motion control instructions such as the linear interpolation, circular interpolation, listing parameters of the pulse output channel of the motive plane and corresponding to each axis, display the current position of the channel, the mechanical home position, output mode, you can set shaft length, unit pulses.
- **Function of generate PLC executable file:** PLC program can be generated to executable file which is released and executed independently. So you do not need to send the PLC program to the user, it can be very easy, very safe to put the PLC excutable file to the user to download, but do not worry the user would can see the program content.
- **Facilitate innovation instruction set:** On the basis of analysis and absorption of various PLC instruction, Haiwell PLC launched many powerful innovations facilitate instruction. As communication instruction (COMM, MODR, MODW, HWRD, HWWR), data portfolio diversification instruction (BUNB, BUNW, WUNW, BDIB, WDIB, WDIW), PID control (PID), valve control (VC), upper and lower alarm (HAL, LAL), range transmitter (SC), temperature curve (TTC) etc. Any one instruction can realize the function but other PLC required to multiple instructions. These instructions are very easy to understand and use, greatly improve the programming efficiency and running speed.
- **Modular project structure:** Create 31 blocks total (main program, sub program, interrupt program) and chose any programming language to program. The execution order of block can be adjusted at random. Each block can be imported and exported independently and has the same password protected of program projects. So we can fully realize the modular programming and program reuse dreams.
- **Instruction using table:** Provides multiple instruction tables. Use these tables can reduce the amount of programs, saving program space, such as initialization data. Each table can be imported and exported independently and has the same password protection of program project.
- **Powerful online features:** Search out all the PLC that connect with the PC. Show running status, fault status, RUN / STOP switch position, hardware configuration information, communication port parameters such detailed information of all the online PLC. Select any PLC for online monitoring, program download, firmware upgrade, controlling PLC stop, adjusting PLC real-time clock, modifying password protection, modifying communication port parameters, modifying the watching-dog time and PLC station names.
- **Online monitoring and debugging functions:** Provide 10 pages of component’s monitoring table. It can choose in decimal, hexadecimal, binary, floating point and character to display data. Support component and register component monitoring hybridly and displaying component annotation at the same time. All instruction tables can be imported to the monitoring table.
- **Unique real-time curve function:** Monitor any of the register elements of its real-time curve, convenient to control and debug during the process.
- **Humane input:** Provide shortcuts, drag and drop, click and many other command input. Suggest effective components or range of values for each input and output terminals. It can be entered directly. Some data of combination (such as communication protocols etc.) can also double-click the instruction to configure the input data.
- **Convenient annotation:** Provide the component comment, network comment, instruction comment, block comment, table comment, and project comment. After the component with “//” to input comments directly (e g.: X0 // motor start).Comments can choose to download to the PLC for reading or modification facilitately.
- **Detailed tips and online help:** Provide PLC resource window, instruction window, etc. All the instructions and detailed description of hardware modules can be found in powerful online help system which is open through clicking F1 key in the programming interface to find the answer. Even if use HaiwellHappy programming software for the first time who can easily complete the preparation of control program.

- **Convenient editing functions:** Support all conventional editing operations, searching and replacing, instruction up and down, network up and down, copying and pasting between program projects.
- **Hardware configuration, sub program parameter passing, local components, indirection, print, preview, debugging, CRC calculation, password protection, etc.**

PLC Model Description

H 32 S 2 R

1 2 3 4 5

1 Series

C：Economic PLC MPU

T：Standard PLC MPU

H：High Performance PLC MPU

N：Motion Control PLC MPU

2 I/0 Point

10-point、16-point、20-point、24-point、32-point、40-point、48-point and 60-point are optional

3 Specification

S: Standard Digital PLC MPU

4 Power Specification

2：220V AC

0：24V DC

5 Output type

R：Relay

T：Transistor

Model Table

Haiwell PLC main MPU have 4 series (C economic, T standard, H high-performance, N motion control)

C Series - Economic PLC MPU

Model		Specification				Dimension
24V DC	220V AC	DI	DO	Communication	Max Module	
C10S0R	C10S2R	6	4R*	RS232 + RS485	N/A	
C10S0T	C10S2T	6	4T*	RS232 + RS485	N/A	
C16S0R	C16S2R	8	8R	RS232 + RS485	N/A	
C16S0T	C16S2T	8	8T	RS232 + RS485	N/A	93×95×82mm
C24S0R	C24S2R	16	8R	RS232 + RS485	N/A	
C24S0T	C24S2T	16	8T	RS232 + RS485	N/A	
C32S0R	C32S2R	16	16R	RS232 + RS485	N/A	
C32S0T	C32S2T	16	16T	RS232 + RS485	N/A	131×95×82mm
C48S0R	C48S2R	28	20R	RS232 + RS485	N/A	
C48S0T	C48S2T	28	20T	RS232 + RS485	N/A	
C60S0R	C60S2R	36	24R	RS232 + RS485	N/A	
C60S0T	C60S2T	36	24T	RS232 + RS485	N/A	177×95×82mm

- MPU Points：10/16/24/32/48/60;
- Program capacity：48K steps;
- No extension module function;
- Cost-effective, high-reliability and practical;
- AC220V or DC24V power supply;
- Use removable terminal blocks, with the rechargeable battery for saving real-time clock;
- The platform update, using ARM architecture, the processing speed increases more than 10 times;
- COM port: Bulit-in RS232 and RS485 ports, compatible with Modbus ASCII/RTU Protocol, Free communication Protocol and haiwellbus high speed Protocol.

T Series - Standard PLC MPU

Model		Specification						Dimension
24V DC	220 VAC	DI	DO	Pulse Input	Pulse Output	Communication	Max Module	
T16S0R	T16S2R	8	8R*	2 Channel 200K		RS232 + RS485, Max 5 ports	7	 93×95×82mm
T16S0T	T16S2T	8	8T*	2 Channel 200K	2 Channel 200K	RS232 + RS485, Max 5 ports	7	
T24S0R	T24S2R	16	8R	2 Channel 200K		RS232 + RS485, Max 5 ports	7	 131×95×82mm
T24S0T	T24S2T	16	8T	2 Channel 200K	2 Channel 200K	RS232 + RS485, Max 5 ports	7	
T32S0R	T32S2R	16	16R	2 Channel 200K		RS232 + RS485, Max 5 ports	7	
T32S0T	T32S2T	16	16T	2 Channel 200K	2 Channel 200K	RS232 + RS485, Max 5 ports	7	
T48S0R	T48S2R	28	20R	2 Channel 200K		RS232 + RS485, Max 5 ports	7	 177×95×82mm
T48S0T	T48S2T	28	20T	2 Channel 200K	2 Channel 200K	RS232 + RS485, Max 5 ports	7	
T60S0R	T60S2R	36	24R	2 Channel 200K		RS232 + RS485, Max 5 ports	7	
T60S0T	T60S2T	36	24T	2 Channel 200K	2 Channel 200K	RS232 + RS485, Max 5 ports	7	

- MPU Points：10/16/24/32/48/60;
- Program capacity：48K steps;
- Expandable to Max. 7 Modules;
- AC220V or DC24V power supply;
- Use removable terminal blocks, with the rechargeable battery for saving real-time clock;
- The platform update, using ARM+FPGA architecture, the processing speed increases more than 10 times;
- 2 groups of AB phase 200KHZ pulse output; 2 channels of 200KHZ pulse input;
- COM port: Bulit-in RS232 and RS485 ports, compatible with Modbus ASCII/RTU Protocol, Free communication Protocol and haiwellbus high speed Protocol .

H Series – High Performance PLC MPU

Model		Specification						Dimension
24V DC	220V AC	DI	DO	Pulse Input	Pulse Output	Communication	Max Module	
H16S0R	H16S2R	8	8R*	4 Channel 200K		RS232 + RS485, Max 5 ports	7	 93×95×82mm
H16S0T	H16S2T	8	8T*	4 Channel 200K	4 Channel 200K	RS232 + RS485, Max 5 ports	7	
H24S0R	H24S2R	12	12R	4 Channel 200K		RS232 + RS485, Max 5 ports	7	
H24S0T	H24S2T	12	12T	4 Channel 200K	4 Channel 200K	RS232 + RS485, Max 5 ports	7	
H32S0R	H32S2R	16	16R	4 Channel 200K		RS232 + RS485, Max 5 ports	7	 131×95×82mm
H32S0T	H32S2T	16	16T	4 Channel 200K	4 Channel 200K	RS232 + RS485, Max 5 ports	7	
H40S0R	H40S2R	20	20R	4 Channel 200K		RS232 + RS485, Max 5 ports	7	
H40S0T	H40S2T	20	20T	4 Channel 200K	4 Channel 200K	RS232 + RS485, Max 5 ports	7	
H60S0R	H60S2R	36	24R	4 Channel 200K		RS232 + RS485, Max 5 ports	7	 177×95×82mm
H60S0T	H60S2T	36	24T	4 Channel 200K	4 Channel 200K	RS232 + RS485, Max 5 ports	7	

- MPU Points：16/24/32/40/60;
- Program capacity：48K steps;
- Expandable to Max. 7 Modules;
- AC220V or DC24V power supply;
- Use removable terminal blocks and use the rechargeable battery for saving real-time clock;
- The platform update, using ARM+FPGA architecture, the processing speed increases more than 10 times;
- 4 groups of AB phase 200KHZ pulse output; 4 channels of 200KHZ pulse input;
- COM port: Bulit-in RS232 and RS485 ports, compatible with Modbus ASCII/RTU Protocol, up tp 5 communication ports and up to 7 non-communication modules.

N Series - Motion Control PLC MPU

Supports 2-axis linear /arc interpolation, 2-axis synchronous control, absolute address, relative address, backlash compensation, electric original point redefine etc.

Model		Specification						Dimension
24V DC	220V AC	DI	DO	Pulse Input	Pulse Output	Communication	Max Module	
N16S0T	N16S2T	8	8T*	4 Channel 200K	4 Channel 200K	RS232 + RS485, Max 5 ports	7	 93×95×82mm
N24S0T	N24S2T	12	12T	6 Channel 200K	6 Channel 200K	RS232 + RS485, Max 5 ports	7	
N40S0T	N40S2T	20	20T	8 Channel 200K	8 Channel 200K	RS232 + RS485, Max 5 ports	7	 131×95×82mm
N60S0T	N60S2T	36	24T	8 Channel 200K	8 Channel 200K	RS232 + RS485, Max 5 ports	7	 177×95×82mm

- MPU Points：16/24/40/60;
- Program capacity：48K steps;
- Expandable to Max. 7 Modules;
- AC220V or DC24V power supply;
- Use removable terminal blocks & the rechargeable battery for saving real-time clock;
- **Support linear/arc interpolation, Synchronism pulse output;**
- The platform update, using ARM+FPGA architecture, the processing speed increases more than 10 times;
- **Support absolute address、relative address；Support backlash compensation、electric original point redefine etc;**
- 8 groups of AB phase 200KHZ pulse output; 8 channels of 200KHZ pulse input ;
- COM port: Bulit-in RS232 and RS485 ports, compatible with Modbus ASCII/RTU Protocol, up tp 5 communication ports and up to 7 non-communication modules .

Haiwell PLC Extension Modules

Built-in RS485 Communication port, support remote I/O function.

Digital I/O Extension Modules

Model		Specification			Dimension
24V DC	220V AC	DI	DO	Communication	
H08DI		8			 30×95×82mm
H08DOR			8R*		
H08DOT			8T*		
H08XDR		4	4R		
H08XDT		4	4T		
H16DI		16		RS485,support remote function	 70×95×82mm
H16DOR			16R	RS485,support remote function	
H16DOT			16T	RS485,support remote function	
H16XDR		8	8R	RS485,support remote function	
H16XDT		8	8T	RS485,support remote function	
H24DI	H24DI2	24		RS485,support remote function	 93×95×82mm
H24XDR	H24XDR2	12	12R	RS485,support remote function	
H24XDT	H24XDT2	12	12T	RS485,support remote function	
H40DI	H40DI2	40		RS485,support remote function	 131×95×82mm
H36DOR	H36DOR2		36R	RS485,support remote function	
H36DOT	H36DOT2		36T	RS485,support remote function	
H40XDR	H40XDR2	20	20R	RS485,support remote function	
H40XDT	H40XDT2	20	20T	RS485,support remote function	
H64XDR	H64XDR2	32	32R	RS485,support remote function	 177×95×82mm
H64XDT	H64XDT2	32	32T	RS485,support remote function	

- MPU Points：8/16/24/36/40/64;
- It can be used as extension module for any haiwell plc;
- 8-point, 16-point digital modules only support DC24V, digital modules with more than 16-point support both DC24V and 220VAC power supply;
- Digital modules with more than 8-point have RS485 port, support stand-alone use and can also be used for Remote IO.

Analog I/O Extension Modules

Model		Specification				Dimension
24V DC	220V AC	AI	AO	Conversion Accuracy	Communication	
H04DT		4 Channel DS18B20 temperature		9~12 bits		 30×95×82mm
H32DT		32 Channel DS18B20 temperature		9~12 bits	RS485, support remote function	
S04AI	S04AI2	4		12 bits	RS485, support remote function	 70×95×82mm
S04AO	S04AO2		4	12 bits	RS485, support remote function	
S04XA	S04XA2	2	2	12 bits	RS485, support remote function	
H04RC	H04RC2	4 thermal resistance		16 bits	RS485, support remote function	
H04TC	H04TC2	4 thermocouple		16 bits	RS485, support remote function	
H08TC	H08TC2	8 thermocouple		16 bits	RS485, support remote function	
S08AI	S08AI2	8		12 bits	RS485, support remote function	 93×95×82mm
S08AO	S08AO2		8	12 bits	RS485, support remote function	
S08XA	S08XA2	4	4	12 bits	RS485, support remote function	
H08RC	H08RC2	8 thermal resistance		16 bits	RS485, support remote function	

- This series consists of 22 models , including analog , thermal resistance, thermocouple and DS18B20 temperature sensor module, with 4-point,8-point and 32-point;
- It can be used as extension module for any Haiwell plc host;
- Modules with RS485 port can be use as remote I/O;
- Power supply: internal DC24V or external 220VAC optional;
- AI, AO supports 6 kinds of signal types: [4,20]mA, [1,5]V, [0,20]mA, [0,5]V, [0,10]V, [-10,10]V;
- Thermal Resistance kinds: PT100,PT1000, Cu50,Cu100;
- Thermocouple kinds: S, K, T, E, J, B, N, R, Wre3/25, Wre5/26, [0,20]mV, [0,50]mV, [0,100]mV.

Communication Extension Modules

Model	Specification	Dimension
S01RS	With isolation ,1 RS232/RS485 communication port, Modbus RTU/ASCII protocol, freedom communication protocol, Haiwellbus high speed communication protocol, Baud rate 1200~57600bps	 30×95×82mm
S01GL	With isolation ,Modbus RTU/ASCII protocol, freedom communication protocol, Haiwellbus high speed communication protocol, Baud rate 1200~115200bps	
H01ZB	Zigbee wireless communication	
PC2ZB	PC to Zigbee module	 48x70x24mm

- This series consists of 4 models , communication port extension module and the wireless communication module ;
- Power supply: internal DC24V;
- Baud rate 1200～115200bps, master/slave mode can be used well;
- Support Modbus RTU/ASCII protocol, free communicaion protocol, HaiwellBus high-speed communication protocol;
- It can be used as extension module for any host, except C series PLC, increasing the number of communication ports;
- Single communication port module can be extended to two or three communication ports, RS485/RS232 port optionally.

Accessories

Model	Specification	Dimension
ACA20	RS232 programming cable (DB9, length 2 meters)	 2.0m

Specification

Haiwell PLC Specification

Item		Specification	Declare
Program control model		Cycle scan model	
Input/output (I/O) control model		Refresh once each cycle scan, support immediately refresh instruction (MPU and Extension module)	
Execution speed of instruction		0.05us/basic instruction	
Program language		LD(ladder) + FBD(function block) + IL(instruction list)	Accord with IEC 61131-3
Program capacity		48K	
Storage way		Flash ROM permanent storage, dispense with backup battery	
X	External input	X0~X1023	Support edge catch and signal filtering set
Y	External output	Y0~Y1023	Power-off preserve output can be configured
M	Auxiliary relay	M0~ M12287	Power-off preserve area can be set freedom
		(default power-off preserve)M1536~M2047	
T	Timer(output coil)	T0~T1023	Power-off preserve area can be set freedom, time base: 10ms, 100ms, 1s be set freedom,T252~T255 1ms
		(default power-off preserve)T96~T127	
C	Counter(output coil)	C0~C255	Power-off preserve area can be set freedom
		(default power-off preserve)C64~C127	
S	Step state bits	S0~S2047	Power-off preserve area can be set Freedom
		(default power-off preserve)S156~S255	
SM	System state bits	SM0~SM215	
LM	Local relay	LM~LM31	
AI	Analog input register	AI0~AI255	Support quantities convert, sample times and zero point correct
AQ	Analog output register	AQ0~AQ255	Support quantities convert, power-off preserve output can be configured
V	Internal data register	V0~V14847	power-off preserve area can be set freedom
		(default power-off preserve)V1000~V2047	
TV	Timer(Current value register)	TV0~TV1023	Power-off preserve area can be set freedom, time base: 10ms, 100ms, 1s can be set freedom,T252~T255 1ms
		(default power-off preserve)TV96~TV127	
CV	Counter(Current value register)	CV0~CV255	Power-off preserve area can be set freedom,CV48~CV79 are 32 bits, Other are 16 bits
		(default power-off preserve)CV64~CV127	
SV	System register	SV0~SV900	
Lv	Local Register	Lv0~Lv31	

Item		Specification	Declare
P	Indexed addressing point	P0~P29 ,use for indirect addressing	
I	Interrupt	I1-I52	
LBL	Lable	255,use for program skip	
Constant	10 Decimal	-32768~+32767(16 bits),-2147483648~+2147483647(32 bits)	
	16 Hexadecimal	0000~FFFF(16 bits),00000000~FFFFFFFF(32 bits)	
Communication port		MPU built-in 2 communication port(RS232/RS485) ,Max 5 communication port (RS232/RS485) Extension	can be program or networking(master/slave)
Communication protocol		Modbus RTU/ASCII protocol, freedom communication protocol, Haiwellbus speed communication protocol, Baud rate 1200~115200bps	
PLC network capacity		PLC communication address can be set external set, Max 254,support 1: N, N: 1, N: N network	
Real time clock(RTC)		Display: year/month/day/hour/minute/second/week	built-in battery
High speed counter		8 Channel, 200K	Have teaching function,7 counting model: 1 - pulse/direction 1 times,2 - pulse/direction 2 times,3 - positive/reversal pulse 1 times,4 - positive/reversal pulse 2 times,5 - A/B phase pulse 1 times,6 - A/B phase pulse 2 times,7 - A/B phase pulse 4 times
High speed pulse output		8 Channel, 200K	5 output models: 1 - single pulse output,2 - pulse/direction output,3 - positive/reversal pulse output,4 - A/B phase pulse output,5 - Synchronism pulse output
Float point arithmetic instruction		support within 32 bits float point arithmetic, integer/float point convert arithmetic	
Password protect		Support three level password protect function(program file password, program block password, PLC hardware password) and upload prohibited function	

Power Specification

Item		AC Supply	DC Supply
Input power supply		AC85~265V	DC24V -15%~+20%
Power supply frequency		50~60Hz	---
Instant surge		MAX 20A 1.5ms @220VAC	MAX 20A 1.5ms @24VDC
Power output		MAX 25VA	---
Permit Power supply lost		20ms within @220VAC	10ms within
Fuse capacity		2A,250V	2A,250V
Action (working) specification		When input power voltage rise to 95~100VAC, PLC will be run, when input power voltage drop down to 70VAC, PLC will be stopped.	---
Output power supply	5VDC for CPU	5V,-2%~+2%,1.2A(maximum)	5V,-2%~+2%,1.2A(maximum)
	24VDC power supply for output and Extension modules	24V,-15%~+15%,500 mA(maximum)	24V,-15%~+15%,500mA(maximum)
	24VDC power supply for input and external device	24V,-15%~+15%,300mA(maximum)	Direct use the 24VDC input power supply
Isolation model		Transformer/photo electricity isolation,1500VAC/1 minute	No electrical isolation
Protect the power supply		DC24V output over the limit of the current	DC power input polar against, over voltage

Product Environment Specification

Item	Environment Specification
Temperature/Humidity	Working temperature: 0 ~ + 55 ℃ storage temperature: - 25 ~ + 70 ℃ and humidity: 5 ~ 95% RH, no condensation
Anti vibration	10~57Hz range 0.075mm,57Hz~150Hz acceleration 1G,X, Y, Z three axis 10 times each direction
Anti shock	15G,contiune 11ms,X, Y, Z three axis 6 times each direction
Anti jamming	AC EFT: ± 2500V, surge: ± 2500V, DC EFT: ±2500V, surge: ±1000V
Over voltage capability	Between AC terminal and PE terminal 1500VAC,1min,Between DC terminal and PE terminal 500VAC,1min
Insulation impedance	Between AC terminal and PE terminal@500VDC,>=5MΩ(Between all input/output terminal and PE terminal@500VDC)
Earth	The third grounding(Cannot connect to the strong power system's earth)
Operation environment	Operated where no dust, moisture, corrosion, electrical shock and physical shock ,etc.

Digital Input (DI) Specification

Item	Digital Input DI
Input signal	Non-voltage contact or NPN/PNP contact
Action driving	ON: 3.5 mA above OFF: below 1.5 mA
Input impedance	About 4.3KΩ
Input maximum current	10mA
Response time	Default 6.4ms,Configurable 0.8~51.2ms
Isolation mode	Each Channel optical isolation
Input indication	LED light means ON, dark means OFF
Power supply	PLC internal power supply: DC power(sink or source)5.3mA@24VDC

Digital Output (DO) Specification

Item		Relay Output-R	Transistor Output NPN-T
maximum load	Resistance load	2A/1 point,8A/4 point per COM	0.5A/1 point,2A/4 point per COM
	Inductive load	50VA	5W/DC24V
	Light load	100W	12W/DC24V
Min. load		10mA	2mA
Voltage specification		Below 250VAC,30VDC	30VDC
Drive capability		Maximum 5A/250VAC	MAX 1A 10S
Response time		Off-on 10ms,On-off 5ms	Off→On 10us, On→Off 120us
Leakage current when route opened		---	Below 0.1mA
Isolation mode		Mechanical isolation	Each Channel optical isolation
Output indication		LED light means ON , dark means OFF	
Power supply		PLC internal power supply 24VDC	

Analog Input (AI) Specification

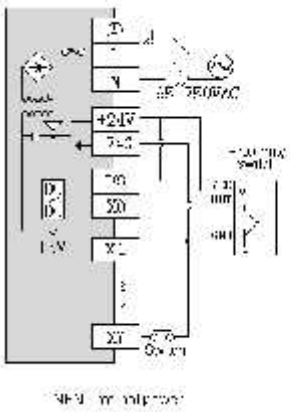
Item	Voltage Input				Current Input		RTD Input	Thermocouple Input
Input range	-10V~+10V	0V~+10V	0V~+5V	1V~+5V	0~20mA	4~20mA	Pt100, Pt1000, Cu50, Cu100	S, K, T, E, J, B, N, R, Wre3/25, Wre5/26, [0-20]mV, [0-50]mV, [0-100]mV
Resolution	5mV	2.5mV	1.25mV	1.25mV	5uA	5uA	0.1□	0.1□
Input impedance	6MΩ				250Ω		6MΩ	6MΩ
Max input range	±13V				±30mA			±5V
Input indication	LED light means normal , dark means break OFF							
Response time	5ms/4 Channel						560ms/4 Channel ,880ms/8 Channel	
Digital input range	12 bits, Code range: 0~32000(H series module 16 bits A/D convert)						16 bits, Code range: 0~32000	
Precision	0.2% F.S						0.1% F.S	
Power supply	MPU use internal power supply, Extension module use external power supply 24VDC ±10% 5VA							
Isolation mode	Opto-electric isolation, Non-isolation between Channel ,between analog and digital is opto-electric isolation							
Power consumption	24VDC ±20%,100mA(Max)						24VDC ±20%,50mA(Max)	

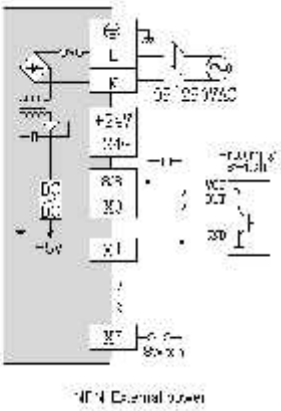
Analog Output (AO) Specification

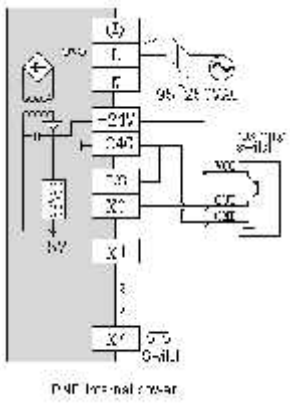
Item	Voltage Output				Current Output	
Output range	-10V~+10V	0V~ +10V	0V~+5V	1V~+5V	0~20mA	4~20mA
Resolution	5mV	2.5mV	1.25mV	1.25mV	5uA	5uA
Output load impedance	1KΩ@10V		≥500Ω@ 5V		≤500Ω	
Output indication	LED light means normal					
Drive capability	10mA					
Response time	3ms					
Digital output range	12 bits, Code range: 0~32000(H series module 16 bits D/A convert)					
Precision	0.2% F.S					
Power supply	MPU use internal power supply, Extension module use external power supply 24VDC ±10% 5VA					
Isolation mode	Opto-electric isolation, Non-isolation between Channel ,between analog and digital is opto-electric isolation					
Power consumption	24VDC ±20%,100mA(Max)					

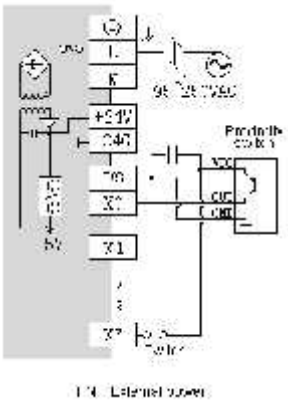
I/O Wiring Diagram

Digital Input (DI) Wiring Diagram

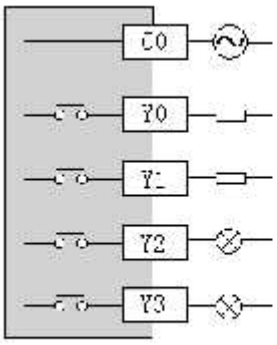




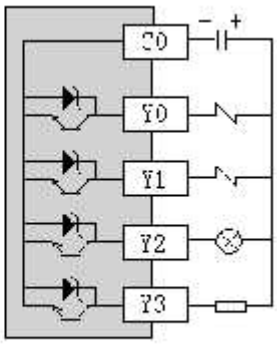




Digital Output (DO) Wiring Diagram

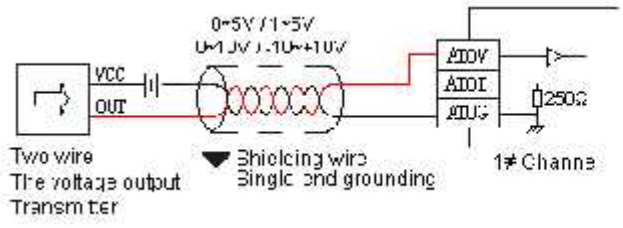


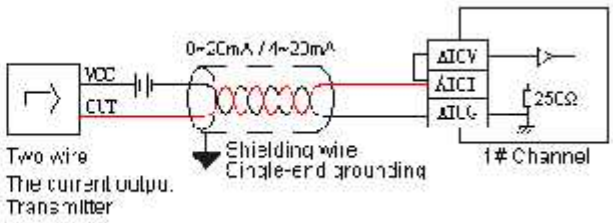
AC/DC Relay output

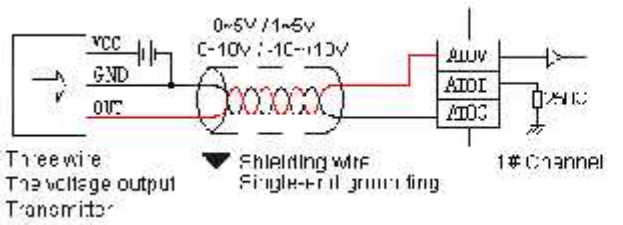


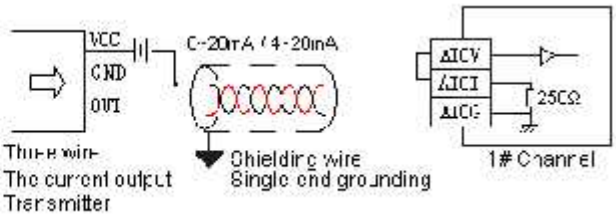
DC N-N Transistor output

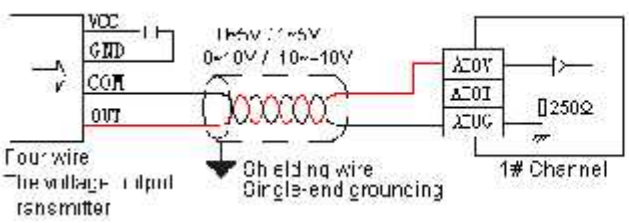
Analog Input (AI) Wiring Diagram

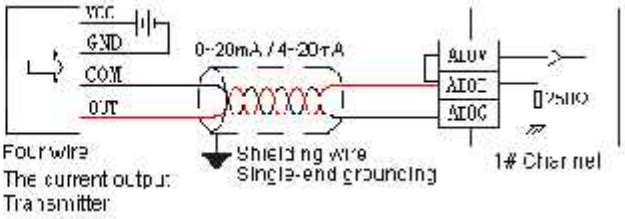




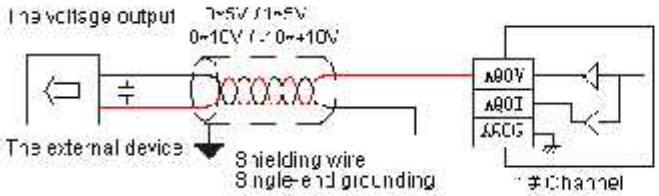


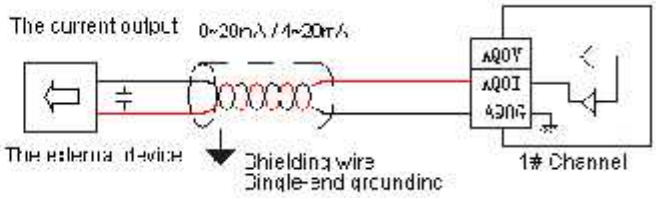




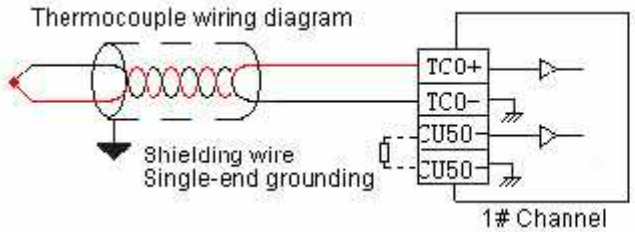


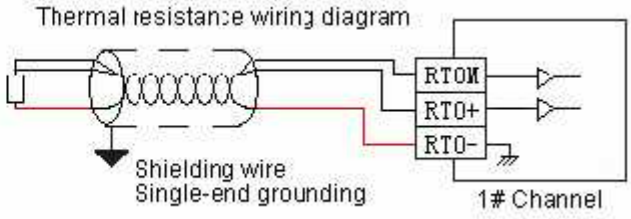
Analog Output (AO) Wiring Diagram





Thermocouple & RTD Input Wiring Diagram

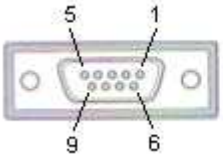




Programming Cable Wiring Diagram

PC (RS232)

DB9 female



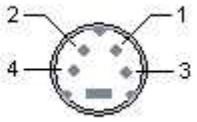
Rx 2 ⟷ 2 Tx

Tx 3 ⟷ 1 Rx

GND 5 ⟷ 3 GND

PLC (COM1)

4 line S male



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