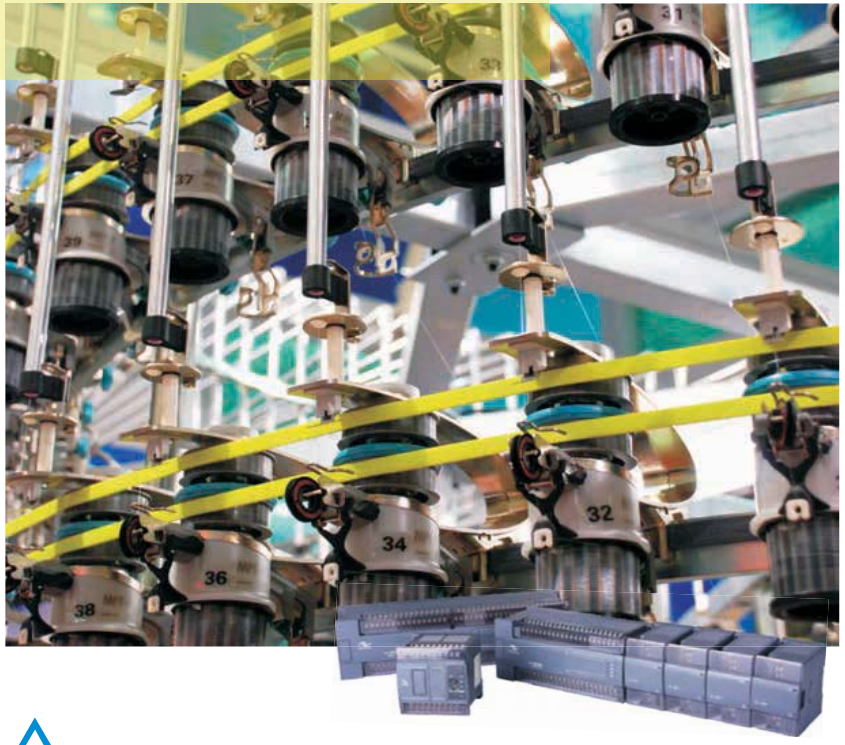
Inovance

Inverter | Servo Drive | Integrated Controller | PLC | HMI | PMSM | Energy

2011

Inothink

H_{1U}/H_{2U} Series Programmable Controller



CE

TÜV

TÜV Rheinland Group

ISO9001 Certified

Data code X.6210043

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Innovation + Advance

Beyond Your Imagination

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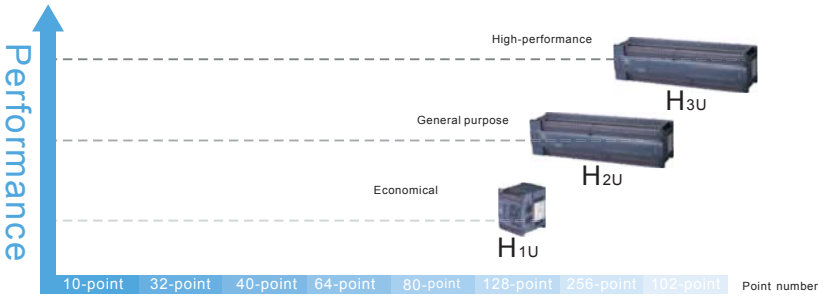
Merge Beyond Innovate

Catalogue

After years of exploration and accumulation in the field of drive industry, we know deeply about various trades on the real demand for automation equipment.
The core competitiveness which we are proud of is to understand and achieve customer's needs quickly. We believe that in control field,we will provide you with the most reliable products and rapid service. At present,we bring you a new H_{1U}/H_{2U} series programmable controller.



H2U-3232MRAX

1 2 3 4 5 6 7 8

1. Inovance controller
2. Series number
3. Input numbers
4. Output numbers
5. Module Classification
   - M:Main module of general purpose controller
   - P:Positioning controller
   - N:Network controller
   - E:Expansion module
6. Output type
   - R:Relay output type
   - Transistor output type
7. Power supply type
   - A:Omitted default AC220V
   - B:110V AC input
   - C:24V AC input
   - D:24V DC input
8. Derivative version number
   - Omission:General purpose
   - N:with CAN function

AC 100V~240V Power Supply

Large Capacity DC24V * 700mA Power Supply

Up to five 100 KHz high-speed output

Easy to select SINK or SOURCE input signal mode

Support Multiple Remote I / O Modules

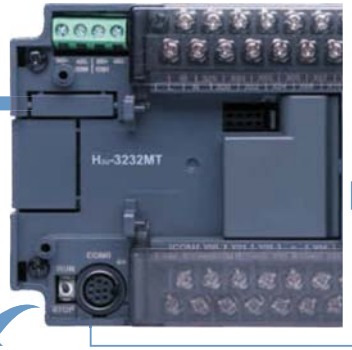
CANbus

H2U-CAN-BD

Two RS485 communication ports can be directly connected to the user's communication slave devices.

Provide six up to 100kHz high-speed input and 4 multiple frequency

I/O terminals are removable and easy for mounting and wiring.



Support system program online update, easy for customization.

Provide RS422/485 and RS485 communication ports,used for downloading user program that's configurable and user friendly.

Program download communication port COM0 RS-422/485 communication port

Communication Expansion Card

H2U-422-BD	RS422 communication expansion card
H2U-232-BD	RS232 communication expansion card
H2U-485F-BD	RS485 isolation communication card
H2U-CAN-BD	CAN communication expansion card

Analog I/O Expansion Card

H2U-3A-BD	Analog I/O expansion card
H2U-6A-BD	2 inputs-1 output analog expansion card 2 voltage inputs-2 current inputs-2 analog outputs expansion card
H2U-6B-BD	4 current inputs-2 analog output expansion card

Remote I/O Expansion Modules

H2U-1600ENDR	16-point digital input remote expansion module
H2U-0016ERDR	16-point relay output remote expansion module
H2U-0016ETDR	16-point transistor output remote expansion module

Remote Analog Modules

H2U-4ADR	4-channel analog input remote expansion module
H2U-4DAR	4-channel analog output remote expansion module
H2U-4PTR	4PT remote expansion module
H2U-4TCR	4TC remote expansion module
H2U-4AMR	4-channel mixed-analog remote expansion module
H2U-6AMR	6-channel mixed-analog remote expansion module
H2U-2ADR	2-channel analog input expansion module
H2U-2DAR	2-channel analog output expansion module

Extensive Expansion Module

Rich Expansion Module

H2U-1600ENN	16-point digital input expansion module
H2U-0016ERN	16-point relay output expansion module
H2U-0016ETN	16-point transistor input expansion module

Local Analog Module

H2U-4AD	4-channel analog input expansion module
H2U-4DA	4-channel analog output expansion module
H2U-4PT	4PT expansion module
H2U-4TC	4TC expansion module
H2U-4AM	4-channel mixed-analog module
H2U-6AM	6-channel mixed-analog module
H2U-2AD	2-channel analog input expansion module
H2U-2DA	2-channel analog output expansion module

High-speed Output

Built-in independent 5-axis,up to 100 kHz positioning function

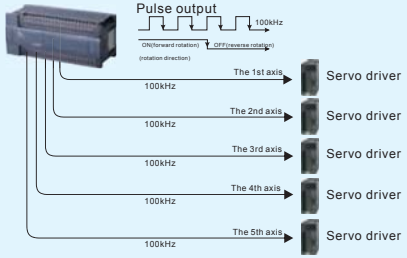
Output terminal

Positioning

Independent 5-axis
Max.100kHz

Built-in independent 5-axis positioning function, output up to 100kHz pulse.

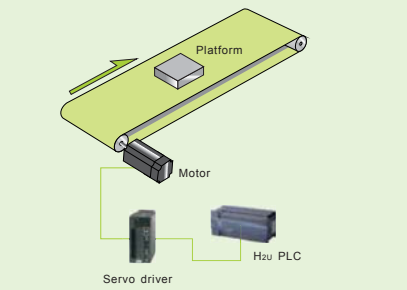
■Independent 5-axis, up to 100 kHz pulse output



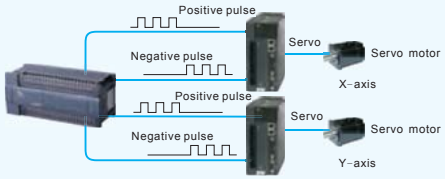
※ Pulse output + rotation direction signal(open collector output)

■New function of PLSY instruction (pulse output)

1)Pulse numbers can be changed in the pulse output process.
2)Use the special relay to perform the pulse instruction which must carry out immediately without disabled operation.
3)Complete the pulse output to generate a complete user interrupt.

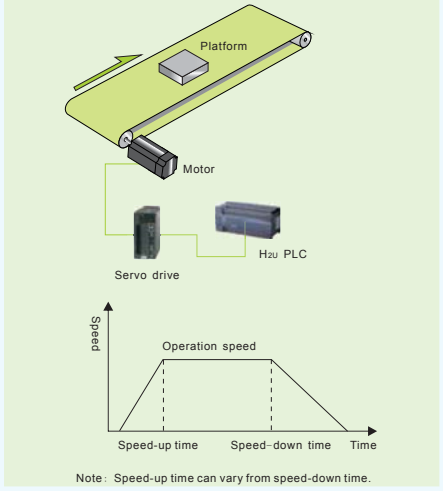


■Hardware Schematic Diagram



■PLSR(with speed-up/speed-down pulse output)
DRVI(Relative position control)
• DRVA(Absolute position control)

1)Pulse numbers can be changed in the process of pulse output.
2)Speed-up time can vary from speed-down time.
3)Use the special relay to perform the pulse instruction which must be carried out immediately without disabled operation.
4)Complete the pulse output to generate a complete user interrupt.



Note: Speed-up time can vary from speed-down time.

High-speed Output

Built-in up to six 100kHz high-speed count function

High-speed counter

Up to six 100kHz high-speed count function

Three types of configuration
(1 phase 1 count, 1 phase 2 count, 2 phase 2 count,).
Comibine the high-speed pulse of 1-phase 100kHz with 2-phase 50kHz.

Input terminal

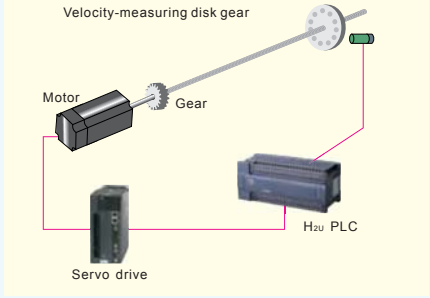
■Up to six 100kHz high-speed count

1-phase 100kHz

2-phase 50kHz

■New added function of SPD(Pulse density)

The calculation of 1-minute pulse numbers (operation speed) is added, the data is calculated via the real-time sampling input pulse frequency and then the internal operation, the maximum input frequency can up to 100KHZ.
The new function can be used as the length counter,tachometer and velocity metre.



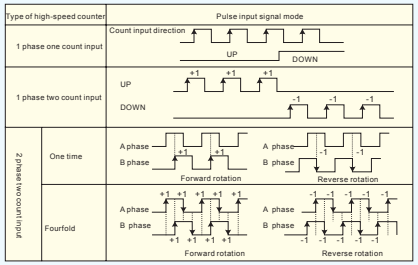
Description:
1)Install disk-gear which is full of small holes on the edge (the number of holes in accordance with the actual requirements), the velocity-measuring disk gear sends the in-off signal to PLC via the U-shaped optical. (Which can also be directly installed a ring encoder in the spindle).
2)Use function of 1-minute pulse numbers to easily calculate the current speed of the motor.

$$\text{Motor rotation speed } N = \frac{\text{n(1-minute pulse numbers)}}{\text{m(Velocity-measuring disk gear numbers)}}$$

3)Use the calculation function of 1-minute pulse number to calculate the operation speed of the mechanical gear chain on the spindle.

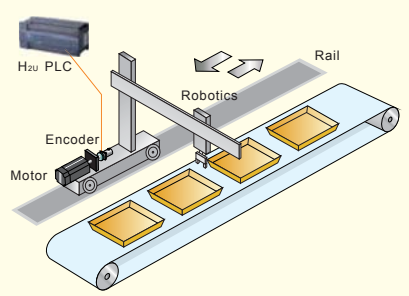
Running speed S=n(1-minute pulse numbers)×L(Space between gear small holes)

■Set 4 multiple frequency input (Bidirectional counter)



■Multi-user interrupt processing for new added high-speed counter

The count of high-speed counter (C235-C255) can generate up to 24 different interrupt outputs. In accordance with the corresponding different setting value, multiple interrupt outputs can be generated while the high-speed counter is counting.



Description:
For the loading and unloading on the rail, quickly perform different duties for different positions. There are fast response and easy operations via using multi-user interrupt processing function of the high-speed counter.

Merge Beyond Innovate

Inovance

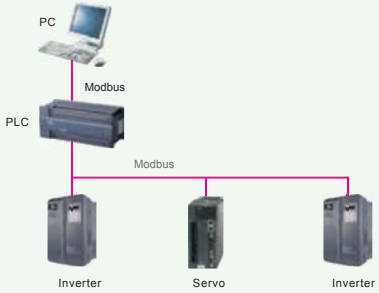
More Powerful System Integration

Communication Type

RS-232 Communication
Non-protocol communication, computer connection (special communication protocol), programming communication and remote maintenance
RS-422 communication
Programming communication
RS-485 communication
Non-protocol communication and computer parallel (special communication protocol) Connection, simple PC connection and inverter communication
CANbus communication
Support CAN-LIN network communication and user programming

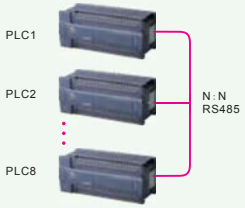
Support Modbus Protocol

Carry out data exchange with Modbus devices directly.



N:N Network Protocol

Support the networking running for one host with up to 7 slaves,and data exchange can be carried out among PLC.The protocol can achieve the cooperative work and simplify the programming work.

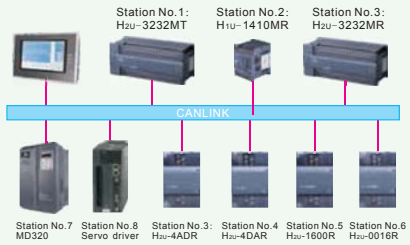


RS Instructions

Write the free protocol communication to any devices.

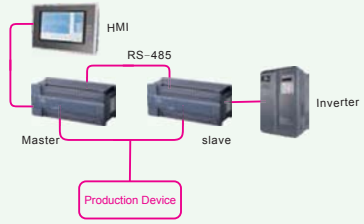
Support CAN-LINK communication protocol

Achieve station synchronous working and data exchange.



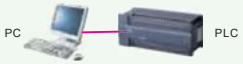
Parallel protocol

Achieve fast data exchange between PLC, the master and slave configuration can easily achieve high reliable 1+1 redundancy backup. It can be switched to another PLC to continue to work if a PLC brakes down, ensuring the reliable operation.



Computer link protocol

Background devices, the computer can be achieved monitoring PLC.



Touch screen and text monitoring protocol

Support most brands of touch screens to link with text.

Reliable and Safe Encryption Function

- Provide second-level cryptosystem

First-level: User program encryption — Read-encryption / Write-encryption

Second-level A: Subprogram encryption

Second-level B: Interrupt-program encryption / Instruction database encryption

If users conduct the first-level password encryption, then the password of second-level A and second-level B will be automatically encrypted. Users can also conduct the password encryption for second-level A and second-level B.

- Each password corresponds to 8 ASCII data.
- The system will be automatically locked by entering the password for more than 10 times.
- All passwords are stored in the main chip FLASH species, rather than external memory.
- All encryption is carried out in the main chip.

Large Capacity

- Up to 24K step large capacity program memory without an external expansion memory * saving cost for customers.

Large-capacity Power Supply

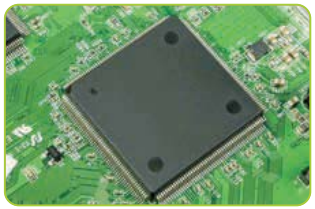
- Large-capacity power supply, directly provide DC24V power to the sensor or touch screen * andsimplify the system design to save cost for customers.

Effective Operation

- Support the float-point operation and 32-bit CPU, making the function instruction speed more fast and the operation more accurate. EMUL needs only 32us.

Permanent Backup User Program

- Users' program can be stored in the main CPU FLASH, never lost.



Double-RS485 Communication Port

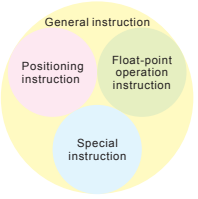
- Integrate two independent communication ports, RS422/485 and 485 communication ports.
And the function can be switched with each other to save cost for customers.

RS422/485 communication port

485 communication port

Comprehensive Instruction Set

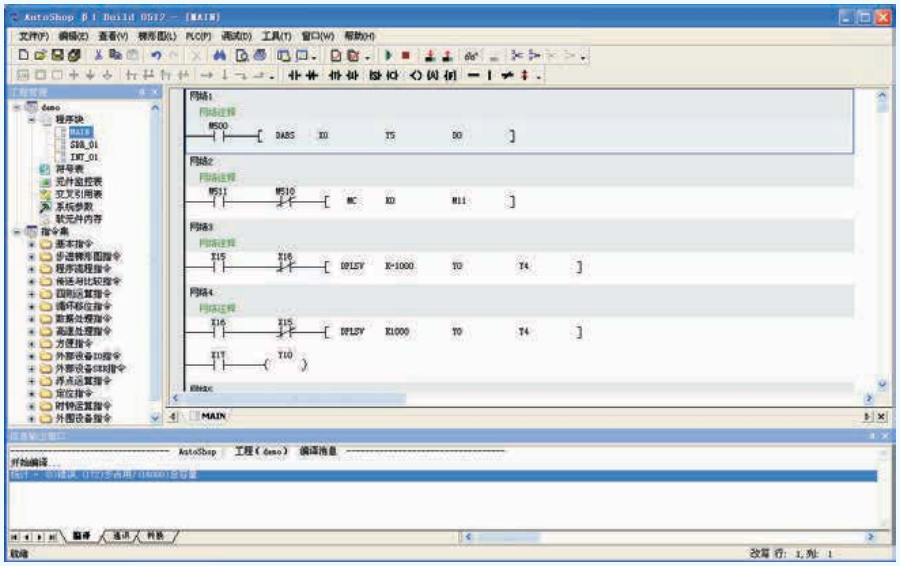
- Support both float-point instructions and positioning instruction.



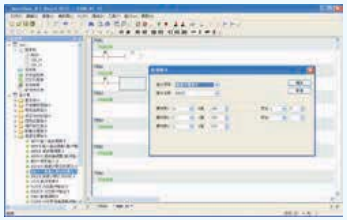
Comfortable Programming Environment

Adopt Windows Visual Studio style for H1u/H2u series PLC development environment.
Chinese components name, comment and program block comment, supporting the programming language that include ladder diagram, SFC, instruction list • etc.
The user program can be divided into different types of main program, sub-program and interrupt sub-program. Use different windows for editing can easily find and edit sub-program, as well as exporting and importing sub-program.

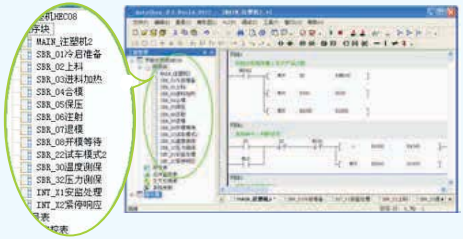
Programming environment of Visual Studio



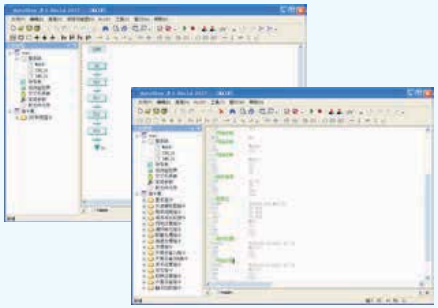
Practical instruction wizard dialog box, help users with the memory instruction parameters



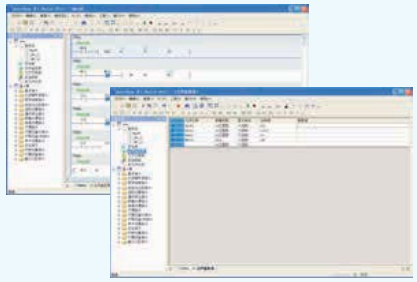
Intuitive and convenient program block management, sub-program, interrupt sub-program have been set out in the way of list, you can edit each program block individually.



Support three kinds of programming methods that include ladder diagram, sequential function chart and instruction list.



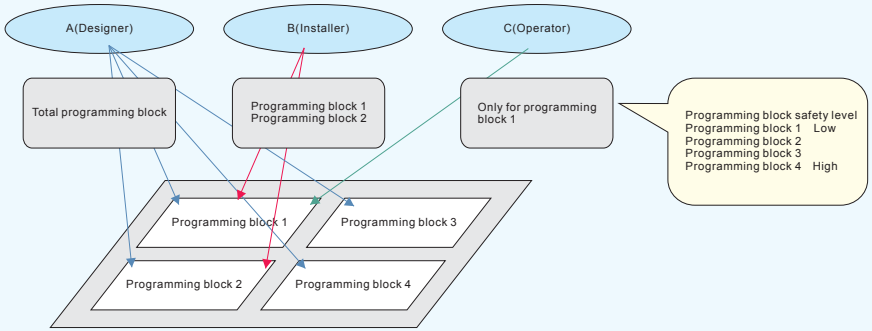
Simple monitoring and user-friendly, supporting real-time monitoring and component monitoring table



Rich Function

Integrate powerful PLC instruction database
Online modification, online downloads and online debugging

Integrate function block
The specialized function can be integrated to the sub-program.
Sub-program can be used as the independent function block for exporting and importing.
Import and export of function blocks can be encrypted to protect the customer's intellectual property rights.
Easy for reusing project codes and improve efficiency.



H2U Prototyping Guide

Control range：32 to 256 points
（Main module：32/40/60/64/80/128 points）

Product Structure

Type	Description	Connection
1 Main module	Built-in CPU, power supply,I/O and the programmable controller host with program memory	Various expansion devices can be connected.
2 Expansion module	Receive I/O modules from the main module. Built-in connection cables.	Max point of I/O is up to 256 * which can be connected up to eight special expansion modules.
3 Expansion Card	Built-in programmable controller, using for function expansion devices. Not occupy I/O points	One expansion card

H2U Main Module

Model	Total I/Os	I/O Features					
		Total I/Ps	High-speed I/Ps	Input voltage	Total O/Ps	High-speed O/Ps	Output Type
H2U-1616MR（N）	32	16	Six 100 kHz	DC24V	16	/	Relay
H2U-1616MT（N）						Three 100 kHz	Transistor
H2U-2416MR（N）	40	24	Two 100 kHz Four 10kHz	DC24V	16	/	Relay
H2U-2416MT（N）						Two 100 kHz	Transistor
H2U-3624MR（N）	60	36	Two 100 kHz Four 10kHz	DC24V	24	/	Relay
H2U-3624MT（N）						Two 100 kHz	Transistor
H2U-3232MR（N）	64	32	Six 100 kHz	DC24V	32	/	Relay
H2U-3232MT（N）						Three 100 kHz	Transistor
H2U-3232MTQ（N）						Five 100 kHz	Transistor
H2U-4040MR（N）	80	40	Six 100 kHz	DC24V	40	/	Relay
H2U-6464MR（N）	128	64	Six 100 kHz	DC24V	64	/	Relay
H2U-6464MR（N）	128	64	Six 100 kHz	DC24V	64	Three 100 kHz	Transistor

H2U Electrical Specifications of Main Module

Input Specifications:

Item		High-speed inputs X0~X7	General inputs
Signal input mode		Sink/Source mode	
Electrical parameters	Detection voltage	18V~30V	
	Input resistance	3.3k	4.3k
	Input ON	More than 4.5mA	More than 3.5mA
	Output OFF	Less than 1.5mA	Less than 1.5mA
Filter function	Digital Filter X0 to X7 has digital filter function, the filter time can be set during the range of 0 to 60 msec.		
	Hardware Filter Other I/O port are hardware filters except X0 to X7 the filter time is about 10 msec.		
High-speed function	X0 to X5 can realize the function with high-speed counting,interrupt and pulse capture,etc. Maximum frequency of X0 to X1 port counting up to 100kHz Maximum frequency of X2 to X5 port counting up to 10kHz（some series can up to100kHz）		
Common connection terminal		S/S,24V (SINK),COM (SOURCE)	

Electric Output Specifications:

Item		Relay outputs	Transistor outputs
Circuit Voltage		Below 250VAC,30VDC	5 to 30VDC
Circuit Insulation		Relay mechanical insulation	Photo Coupler Insulation
LED		Relay output contacts close, LED light on.	Photo coupler is driving,LED light on
Leakage current during open circuit		--	Less than 0.1mA/30VDC
Min.load		2mA/5VDC	5mA(5~30VDC)
Max output current	Resistive load	2A/1 point 8A/4 points common port 8A/8 points common port	Y0~Y2:0.5A/point Others:0.5A/point 0.8A/4 points, 1.6A/8 points
	Inductive load	220VAC,80VA	Y0~Y2:7.2W/24VDC * Others:12W/24VDC
	Lamp Load	220VAC,100W	Y0~Y2:0.9W/24VDC * Others:1.5W/24VDC
ON response delay		20ms Max	Y0 * Y2:10us; Others:0.5ms
OFF response delay		20ms Max	
Max output frequency of Y0,Y1,Y2		/	100kHz per channel
Output common ports		Each group shared a common port, there is insulated gap between the groups.	
Fuse protection		None	

Power Supply Specifications:

Item		Unit	Min.Value	Typical Value	Max.Value
Rated operating voltage		VAC	100	220	240
Limit input voltage		VAC	85	/	264
Input current		A	/	/	1
Input power		W/VA	/	/	50W/85VA
Output voltage	5V/GND	V	4.75	5	5.25
	24VDD/GND	V	21.6	24	26.4
	24VCC/COM	V	21.6	24	26.4
Output current	5V/GND	mA	/	/	1100
	24VDD/GND	mA	/	/	700
	24VCC/COM	mA	/	/	700

Electromagnetic Compatibility:

Item No.	Test item	Test standards	Basic standards	Performance criteria
1	Conducted interference	EN 61131-2:2003 Section 8.2.3,Table 27 AC port,Class A Limits	SISPR 11:1997+ A1:1999+A2:2002	Class A, Group 1
2	Radiated interference	EN 61131-2:2003 Section 8.2.3,Table 27 External port Class A Limits	SISPR 11:1997+ A1:1999+A2:2002	Class A, Group 1
3	ESD immunity	EN 61131-2:2003 Section 8.3.3,Table 30 External port ±4kV Contact discharge, ±8kV Air discharge	EN 61000-4-2:2001	B
4	Radiated immunity	EN 61131-2:2003 Section 8.3.3,Table 30 External port,10V/m	EN 61000-4-3:2002+ A1:2002	A
5	Immunity of electrical fast transient	EN 61131-2:2003 Section 8.3.3,Table 31 AC:2KV;DC:1KV	EN 61000-4-4:2004	B
6	Immunity of surge protective	EN 61131-2:2003 Section 8.3.3,Table 31 AC:1KV(DM), 2KV(CM);DC:0.5KV	EN 61000-4-5:2001	B
7	Immunity of conduction interference	EN 61131-2:2003 Section 8.3.3,Table 31 10V	EN 61000-4-6:2001	A
8	Immunity of power frequency	EN 61131-2:2003 Section 8.3.3,Table 30 External port,30A/m	EN 61000-4-8:2001	A
9	Immunity of voltage dip and interrupt	EN 61131-2:2003 Section 8.3.4,Table 33 Half cycle(10msec)	EN 61000-4-11:1994 +A1:2000	A
10	Noise immunity	1. The Common-mode of the power line has 2.5kV, differential-mode has 2.5kV; 2. The signal line with dual coupled is 2.5kV; 3. The signal line and power line with compositing and coupling is 2.2kV.	IEC 61800-3:2004 Noise	A

Performance Specifications:

Item			H2u Series
Operation control mode			Circular scan mode and interrupting instruction
I/O control mode			Batch processing method (when END instruction is executed), there is an I/O immediate refresh instruction
Programming language			Ladder diagram(LD), instruction list(IL) and sequentialfunction chart(SFC)
Max storage capacity			24K steps, (including file registers, max. 24K)
Instruction type	Basic sequence Control/ step-ladder diagram		27 Sequential control instructions, 2 step-ladder diagram instructions
	Application Instruction		128 types that include 298
	Basic Instruction		0.26μs/ instruction
	Application Instruction		1~ hundreds of μs/ instruction
Max I/O points	Input points during extending		X000~X377 256 points (octal number)
	Output points during extending		Y000~Y377 256 points (octal number)
	I/O total points during extending		256 points
Auxiliary Relay (M)	General		M0~M499 500 points
	Latched		M500~M1023 524 points
	Latched		M1024~M3071 2048 points
	Special		M8000~M8255 256 points
State Register (S)	Initial		S0~S9 10 points
	General		S10~S499 490 points
	Latched		S500~S899 400 points
	Signal		S900~S999 100 points
Timer (T)	100ms		T0~T199 200 points (0.1~3276.7 sec.)
	10ms		T200~T245 46 points (0.01~327.67 sec.)
	Cumulative 1 msec		T246~T249 4 points (0.001~32.767 sec.)
	Cumulative 100 msec		T250~T255 6 points (0.1~3276.7 sec.)
Counter (C)	Unidirectional 16 bit (Latched)		C0~C99 100 points (0~32767 counting)
	Unidirectional 16 bit (Latched)		C100~C199 100 points (0~32767 counting)
	Bidirectional 32 bit (General)		C200~C219 20 points (-2,147,483,648 ~ +2,147,483,647 counting)
	Bidirectional 32 bit (Latched)		C220~C234 15 points (-2,147,483,648 ~ +2,147,483,647 counting)
	High-speed bidirectional 32 bit		C235~C255
Data register	General	16 bit	D0~D199 points 200
	General	16 bit	D200~D511 points 312
	Latched	16 bit	D512~D7999 points 7488 (Above D1000, take 500 points as the unit to set file registers)
	Special	16 bit	D8000~D8255 256 points
	Index address	16 bit	V0~V7, Z0~Z7 16 points
Pointers	JAMP,CALL		P0~P127 128 points
	Input Interrupt		I00X~I50X 6 points
	Timer interrupt		I6XX~I8XX 3 points
	Counting interrupt		I010~I060 6 points
	Pulse output interrupt		I6□0~I8□6 6 points
	Multi-user interrupt		I6□7~I8□0 24 points
Nestings	Master control		N0~N7 points 8
Constants	Decimal (K)		16 bit: -32,768~+32,767 32 bit: -2,147,483,648 ~ +2,147,483,647
	Hexadecimal(H)		16 bit: 0~FFFF 32 bit: 0~FFFFFFFF

Expansion Module

■H2U—4AD(R)[Note] 4-channel analog input expansion module

Function: 4-channel analog input expansion module C5V consumption current: 50mA C24V consumption current: 80mA

Item	Index	Description
Voltage input signal level	-10~10VDC	Each channel can independently select the analog signal type. Users should set the corresponding BFM area according to the access signal type.
Voltage channel input resistance	200k Ω	
Current input signal	-20mA~20mA	
Current input sampling resistance	250 Ω	
Input channel number	4 channels	
Input signal frequency	Less than 0Hz	
Conversion speed	15ms/channel(constant speed),6ms/channel(Max)	
AD data transformation	Default value: -2000~+2000	Allowable range(-10000~10000)
Resolution	12bit:Voltage input 5V, or current input 20μA	
Accuracy	Overall accuracy for fullscale is ±1%	
Occupied I/O point number	None	
Isolation design	Use the photocoupler insulation between analog and digital circuit. Use DC/DC insulation between analog circuit and external power supply. Between the analog input signal channels are not isolated.	

■H2U—4DA(R)[Note] 4-channel analog output expansion module

Function: 4-channel analog input expansion module DC5V consumption current: 50mA DC24V consumption current: 200mA

Item	Index	Description
Voltage input signal level	-10~10VDC	Each channel can independently select the analog signal type. Users should set the corresponding BFM area according to the access signal type.
Voltage channel Min. resistance	2k Ω	
Current output signal	4mA~20mA	
Voltage channel Max. resistance	500 Ω	
Input channel number	4	
Signal conversion speed	4ms/channel	
Conversion speed	15ms/channel(constant speed),6ms/channel(Max)	
DA data transformation	Default value: -2000~2000	Allowable range: -10000~10000
Voltage signal resolution	5mV	Correspond to 10V/2000 or 10000
Current signal resolution	20 μA	Correspond to 20mA/2000 or 10000
Accuracy	Overall accuracy for fullscale is ±1%	
Occupied I/O point number	None	
Isolation design	Use the photocoupler insulation between analog and digital circuit. Use DC/DC insulation between analog circuit and external power supply. Between the analog input signal channels are not isolated.	

■H2U—4PT(R)[Note] 4-channel temperature detection expansion module

Function:Modules for 4-channel Pt100 temperature sensor DC5V consumption current: 50mA DC24V consumption current: 80mA

Item	Index	Description
Temperature detection sensor	Pt100	
Temperature detection range	Celsius: -100℃ to +600℃	F:-148F to +1112 F
Number of input channels	4	
Conversion speed	15ms/channel	
AD data transformation	Celsius: -1000 to +6000	F: -1480 to +11120
Resolution	0.1℃	
Accuracy	±1%	
Occupied I/O point number	None	
Isolation design	Use the photocoupler insulation between analog and digital circuit. Use DC/DC insulation between analog circuit and external power supply. Between the analog input signal channels are not isolated.	

■H2U—4TC(R)[Note] 4-channel temperature detection expansion module

Function: Modules for 4-channel thermocouple temperature sensor DC5V consumption current: 50mA DC24V consumption current: 80mA

Item	Idex	Description
Temperature detection sensor	K/J-type thermocouple	
Temperature detection range	K-type:-100℃to+1200℃ J-type:-100℃to 600℃	K-type: 148F to 2192F J-type:-148F to 1112F
Number of input channels	4	
Conversion speed	240ms/4-channel	
Resolution	K-type:-1000 to 12000 J-type:-1000 to 6000	K-type:-1480 to 21920 J-type:-1480 to 11120
AD data transformation	0.1℃	0.1F
Accuracy	±0.5%,±1℃	
Occupied I/O point number	None	
Isolation design	Use the photocoupler insulation between analog and digital circuit. Use DC/DC insulation between analog circuit and external power supply. Between the analog input signal channels are not isolated.	

■H2U—1600ENN(R)[Note] 16-point input expansion module

Total I/O points: 16 Input points: 16

Item	Index
Input resistance	3.3k~4.3k
Input current	5.3mA TYP
ON current	3.5mA Min
OFF current	1.5mA Max
Hardware filter time	About 0ms
Circuit	SINK or SOURCE, photo-coupler insulation

■H2U—0016ERN(R)[Note] 16-point relay output expansion module

Total I/O points: 16 Input points: 16 Output type: relay output

Item		Rely output port index
Load voltage		250VAC or below 30VDC
Rated output current	Resistance-inductance load	Single-point-rated:2.0A 250VAC,total current of the COM (8 points) should be less than 8A.
	Capacitive load	Not recommended,the current at startup should according to resistance.
	Lamp load	Single-point should be less than 100W /220VAC
ON response		20ms Max
OFF response		20ms Max
Min.load		2mA/5VDC
Fuse protection		None
Circuit isolation		Relay mechanical insulation,there is isolated between output groups.
Motion indication		Closing the relay contacts will light the LED indicator lamp.

■H2U−0016ETN H2U−0016ETDR 16-point transistor output expansion module

Total I/O points:16 Output points:16 Output type:Transistor ouput

Item		Relay output port
Load voltage		5~24VDC
Output current		Single-point-rated: 0.3A/24VDC, total current of the COM (8 points) should be less than 2 A.
Max. output current	Resistance load	0.5A/1-point; 0.8A/4 points, 1.6A/8 points
	Inductive load	7.2W/24VDC
	Lamp load	Others: 1.5W/24VDC
Min. load		5mA(5~24VDC)
Open-circuit leakage current		0.1 mA or less at 30V DC
Output fuse protection		None
ON response		0.5ms Max
OFF response		0.5ms Max
Output common port		Every 8 ports can be devided into one group, each group share one common port.
Insulation		Photo-coupler insulation,each port group is isolated.
Motion indication		Turning on the input will light the LED indicator lamp.

Note * Finally add an R that indicates the remote expansion module, the omission indicates the local expansion module.

■H2U−2AD(R)[Note] 2-channel analog input expansion module

Function:2-channel analog input expansion module DC5V consumption current: 50mA DC24V consumption current:80mA

Item	Input Index	Description
Voltage input signal level	-10~10VDC	Each channel can independently select the output signal type. Users should set the corresponding BFM area according to the output signal type.
Voltage channel input resistance	200kΩ	
Current input signal	-20mA~20mA	
Current input sampling resistance	250Ω	
Input channel number	2 channels	
Input signal frequency	Less than 10Hz	
Conversion speed	15ms/channel(constant speed,6ms/channel(Max)	
AD data transformation	Default value: -2000~+2000	Allowable range: -10000~10000
Resolution	12bit: Voltage input 5mV, or current input 20μA	
Accuracy	Overall accuracy for fullscale is ±1%	
Occupied I/O point number	None	
Isolation design	Use the photocoupler insulation between analog and digital circuit. Use DC/DC insulation between analog circuit and external power supply. Between the analog input signal channels are not isolated.	

■H2U−2DA(R)[Note] 2-channel analog input expansion module

Function:2-channel analog input expansion module DC5V consumption current:50mA DC24V consumption current:200mA

Item	Output Idex	Description
Voltage input signal level	-10~10VDC	Each channel can independently select the output signal type. Users should set the corresponding BFM area according to the output signal type.
Voltage channel Min. resistance	2kΩ	
Current output signal	4mA~20mA	
Voltage channel Max. resistance	100Ω~500Ω	
Input channel number	2	
Signal conversion speed	4ms/channel	
Conversion speed	15ms/channel(constant speed), 6ms/channel(Max)	
DA data transformation	Default value: -2000~2000	Allowable range: -10000~10000
Voltage signal resolution	5mV	Correspond to 10V/2000 or 10000
Current signal resolution	20μA	Correspond to 20mA/2000 or 10000
Accuracy	Overall accuracy for fullscale is ±1%	
Occupied I/O point number	None	
Isolation design	Use the photocoupler insulation between analog and digital circuit. Use DC/DC insulation between analog circuit and external power supply. Between the analog input signal channels are not isolated.	

■H2U−4AM(R)[Note] 2-channel analog input/ 2-channel analog output mixed expansion module

Function:2-channel analog input/ 2-channel analog output mixed expansion module DC5V consumption current:50mA
DC24V consumption current:200mA

Input Item	Input Index	Description
Voltage input signal level	0~10VDC	Each channel can independently select the output signal type. Users should set the corresponding BFM area according to the output signal type.
Voltage channel input resistance	200kΩ	
Current input signal	0mA~20mA	
Current input sampling resistance	250Ω	
Input channel number	2 channels	
Input signal frequency	Less than 10Hz	
Conversion speed	15ms/channel(constant speed),6ms/channel(Max)	
AD data transformation	Default value: 0~+2000	Allowable range(0~10000)
Resolution	12bit: Voltage input 5mV, or current input 20μA	
Accuracy	Overall accuracy for fullscale is ±1%	
Occupied I/O point number	None	
Isolation design	Use the photocoupler insulation between analog and digital circuit. Use DC/DC insulation between analog circuit and external power supply. Between the analog input signal channels are not isolated.	
Output Item	**Output Index**	**Description**
Voltage output signal level	-10~10VDC	Each channel can independently select the output signal type. Users should set the corresponding BFM area according to the output signal type.
Min. resistance of voltage channel	2kΩ	
Current output signal	4mA~20mA	
Voltage channel Max. resistance	100Ω~500Ω	
Input channel number	2	
Signal conversion speed	4ms/channel	
Conversion speed	15ms/channel(constant speed),6ms/channel(Max)	
DA data transformation	Default value: -2000~2000	Allowable range: -10000~10000
Voltage signal resolution	5mV	Correspond to 10V/2000 or 10000
Current signal resolution	20μA	Correspond to 20mA/2000 or 10000
Accuracy	Overall accuracy for fullscale is ±1%	
Occupied I/O point number	None	
Isolation design	Use the photocoupler insulation between analog and digital circuit. Use DC/DC insulation between analog circuit and external power supply. Between the analog input signal channels are not isolated.	

■H2U−6AM(R)[Note] 4-channel analog input/ 2-channel analog output mixed expansion module

Function:4-channel analog input/ 2-channel analog output mixed expansion module DC5V consumption current:50mA
DC24V consumption current:200mA

Input Item	Input Index	Description
Current input signal	0mA~20mA	
Current input sampling resistance	250Ω	
Input channel number	4 channels	
Input signal frequency	Less than 10Hz	
Conversion speed	15ms/channel(constant speed), 6ms/channel(Max)	
AD data transformation	Default value: 0~+1000	Allowable range (0~10000)
Resolution	12bit: Voltage input 5mV, or current input 20μA	
Accuracy	Overall accuracy for fullscale is ±1%	
Occupied I/O point number	None	
Isolation design	Use the photocoupler insulation between analog and digital circuit. Use DC/DC insulation between analog circuit and external power supply. Between the analog input signal channels are not isolated.	
Output Item	**Output Index**	**Description**
Voltage output signal level	-10~10VDC	Each channel can independently select the output signal type. Users should set the corresponding BFM area according to the output signal type.
Voltage channel Min. resistance	2kΩ	
Current output signal	4mA~20mA	
Voltage channel Max. resistance	100Ω~500Ω	
Input channel number	2	
Signal conversion speed	4ms/channel	
Conversion speed	15ms/channel(constant speed), 6ms/channel(Max)	
DA data transformation	Default value: -2000~2000	Allowable range: -10000~10000
Voltage signal resolution	5mV	Correspond to 10V/2000 or 10000
Current signal resolution	20μA	Correspond to 20mA/2000 or 10000
Accuracy	Overall accuracy for fullscale is ±1%	
Occupied I/O point number	None	
Isolation design	Use the photocoupler insulation between analog and digital circuit. Use DC/DC insulation between analog circuit and external power supply. Between the analog input signal channels are not isolated.	

H2U Expansion Card

Communication Expansion Card

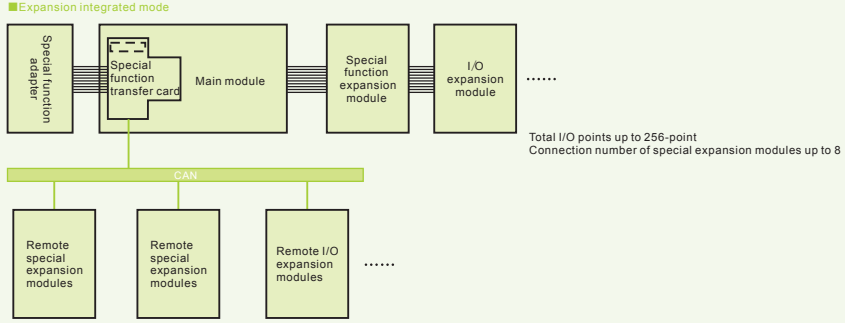
Model	Function
H2U-232-BD	RS-232C function expansion card for communication
H2U-485IF-BD	RS-485 function expansion card for insulation communication
H2U-422-BD	RS-422 function expansion card for communication
H2U-CAN-BD	CAN-LINK function expansion card for insulation communication

Analog Expansion Card

Model	Function
H2U-3A-BD	2-channel analog input and1 channel analog input
H2U-6A-BD	2-channel analog voltage input, 2-channel analog current input and 2-channel analog current output
H2U-6B-BD	4-channel analog current input and 2-channel analog output

	Item	Parameter	Description
AI	Numbers of input channel	2ch/4ch	Both two channels have voltage or current signal
	Signal level(differential mode)	0~10V or 4~20mA	Input type
	Allowable common-mode voltage	5Vpp	
	Input resistance	Voltage input port is not less than 100kO	Use the current type of 4~20mA, current sampling resistance is 500O.
	ADC sampling resolution	12bit	
	Quantization error	0.3%	
	Simpling speed	6ms/per channel	AD response time is related to filtering setting.
AO	Numbers of output channel	1ch/2ch	
	Signal level	0~10VDC, 0~20mA	There are voltage and current signals output at the same time.
	DAC resolution	12bit	
	Voltage signal allowable minimum load	2kO	
	Voltage signal allowable load resistance	250O~500O	
	Refresh rate	6ms	DA response time is related to user program scan.
	Power supply	-5V, +5V, +24V	

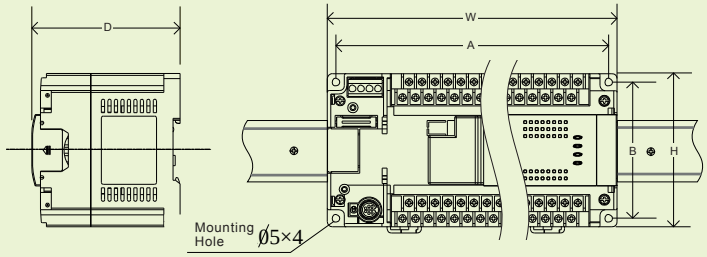
Expansion integrated mode



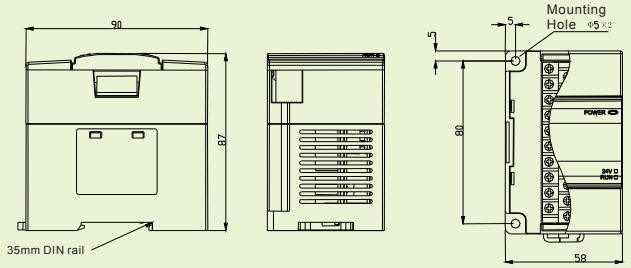
Total I/O points up to 256-point
Connection number of special expansion modules up to 8

H2U Installation specification

Diagram of main module mounting dimension (support DIN rail and screw fixed)



Mounting dimension of expansion modules



H2U series mounting dimension table

Model	Description	Total I/Os	Mounting hole A(mm)	Mounting hole B(mm)	Physical dimension W×H×D(mm)
H2U-1616MR	32 points-Relay output-H2U general purpose main module	32	160	80	175.0×90×88
H2U-1616MT	32 points-Transistor output-H2U general purpose main module				
H2U-2416MR	40 points-Relay output-H2U general purpose main module	40	160	80	175.0×90×88
H2U-2416MT	40 points-Transistor output-H2U general purpose main module				
H2U-3624MR	60 points-Relay output-H2U general purpose main module	60	210	80	220.0×90×88
H2U-3624MT	60 points-Transistor output-H2U general purpose main module				
H2U-3232MR	64 points-Relay output-H2U general purpose main module	64	210	80	220.0×90×88
H2U-3232MT	64 points-Transistor output-H2U general purpose main module				
H2U-3232MTQ	64 points-Transistor output-H2U five high-speed output main module				
H2U-4040MR	80 points-Relay output-H2U general purpose main module	80	275	80	285.0×90×88
H2U-4040MRW	80 points-Relay output-H2U main module (white)				
H2U-6464MR	128 points-Relay output-H2U general purpose main module	128	340	80	350×90×88
H2U-6464MT	128 points-Transistor output-H2U general purpose main module	128	340	80	350×90×88
Expansion module	It is applicable to all the expansion modules.	-	-		58×90×88

Merge Beyond Innovate

Inovance

Terminal Layout-H2U Main Module

H2U-1616MR, H2U-1616MT

⏚	•	S/S	0V	0V	X0	X2	X4	X6	X10	X12	X14	X16	•
L	N	•	S/S	24V	24V	X1	X3	X5	X7	X11	X13	X15	X17

Y0	Y1	Y2	•	Y4	•	Y6	•	Y10	Y12	•	Y14	Y16	•
COM0	COM1	COM2	Y3	COM3	Y5	COM4	Y7	COM5	Y11	Y13	COM6	Y15	Y17

H2U-2416MR, H2U-2416MT

⏚	S/S	X1	X3	X5	X7	X11	X13	X15	X17	X21	X23	X25	X27
L	N	X0	X2	X4	X6	X10	X12	X14	X16	X20	X22	X24	X26

COM	Y0	Y1	Y2	•	Y4	Y6	•	Y10	Y12	•	Y14	Y16	•
24V	COM0	COM1	COM2	Y3	COM3	Y5	Y7	COM4	Y11	Y13	COM5	Y15	Y17

H2U-3624MR, H2U-3624MT

⏚	S/S	X1	X3	X5	X7	X11	X13	X15	X17	X21	X23	X25	X27	X31	X33	X35	X37	X41	X43	•
L	N	X0	X2	X4	X6	X10	X12	X14	X16	X20	X22	X24	X26	X30	X32	X34	X36	X40	X42	•

COM	Y0	Y1	Y2	•	Y4	Y6	•	Y10	Y12	•	Y14	Y16	•	Y20	Y22	•	Y24	Y26	•	•
24V	COM0	COM1	COM2	Y3	COM3	Y5	Y7	COM4	Y11	Y13	COM5	Y15	Y17	COM6	Y21	Y23	COM7	Y25	Y27	•

H2U-3232MR, H2U-3232MT

⏚	S/S	0V	0V	X0	X2	X4	X6	X10	X12	X14	X16	X20	X22	X24	X26	X30	X32	X34	X36	•
L	N	•	24V	24V	X1	X3	X5	X7	X11	X13	X15	X17	X21	X23	X25	X27	X31	X33	X35	X37

Y0	Y2	•	Y4	Y6	•	Y10	Y12	•	Y14	Y16	•	Y20	Y22	Y24	Y26	Y30	Y32	Y34	Y36	COM6
COM1	Y1	Y3	COM2	Y5	Y7	COM3	Y11	Y13	COM4	Y15	Y17	COM5	Y21	Y23	Y25	Y27	Y31	Y33	Y35	Y37

H2U-3232MTQ

⏚	S/S	0V	0V	X0	X2	X4	X6	X10	X12	X14	X16	X20	X22	X24	X26	X30	X32	X34	X36	•
L	N	•	24V	24V	X1	X3	X5	X7	X11	X13	X15	X17	X21	X23	X25	X27	X31	X33	X35	X37

Y0	Y2	Y3	Y4	Y5	Y6	COM5	Y11	Y13	Y14	Y16	COM7	Y21	Y23	Y24	Y26	Y30	Y32	Y34	Y36	COM9
COM0	Y1	COM1	COM2	COM3	COM4	Y7	Y10	Y12	COM6	Y15	Y17	Y20	Y22	COM8	Y25	Y27	Y31	Y33	Y35	Y37

H2U-4040MR

⏚	S/S	0V	0V	X0	X2	X4	X6	X10	X12	X14	X16	•	X20	X22	X24	X26	•	X30	X32	X34	X36	•	X40	X42	X44	X46	•
L	N	•	24V	24V	X1	X3	X5	X7	X11	X13	X15	X17	•	X21	X23	X25	X27	•	X31	X33	X35	X37	•	X41	X43	X45	X47

Y0	Y1	Y2	Y3	Y5	Y7	Y10	Y12	•	Y14	Y16	•	Y20	Y22	Y24	Y26	•	•	Y30	Y32	Y34	Y36	•	Y40	Y42	Y44	Y46	•
COM0	COM1	COM2	COM3	Y4	Y6	COM4	Y11	Y13	COM5	Y15	Y17	COM6	Y21	Y23	Y25	Y27	•	COM7	Y31	Y33	Y35	Y37	COM8	Y41	Y43	Y45	Y47

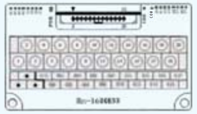
H2U-6464MR, H2U-6464MT

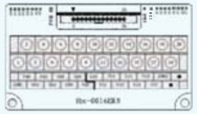
⏚	S/S	0V	0V	X0	X2	X4	X6	X10	X12	X14	X16	X20	X22	X24	X26	X30	X32	X34	X36	X40	X42	X44	X46	X50	X52	X54	X56	X60	X62	X64	X66	X70	X72	X74	X76	•
L	N	•	24V	24V	X1	X3	X5	X7	X11	X13	X15	X17	X21	X23	X25	X27	X31	X33	X35	X37	X41	X43	X45	X47	X51	X53	X55	X57	X61	X63	X65	X67	X71	X73	X75	X77

Y0	Y2	COM2	Y5	Y7	Y10	Y12	COM4	Y15	Y17	Y20	Y22	Y24	Y26	COM6	Y31	Y33	Y35	Y37	Y40	Y42	Y44	Y46	COM8	Y51	Y53	Y55	Y57	Y60	Y62	Y64	Y66	COM10	Y71	Y73	Y75	Y77
COM1	Y1	Y3	Y4	Y6	COM3	Y11	Y13	Y14	Y16	COM5	Y21	Y23	Y25	Y27	Y30	Y32	Y34	Y36	COM7	Y41	Y43	Y45	Y47	Y50	Y52	Y54	Y56	COM9	Y61	Y63	Y65	Y67	Y70	Y72	Y74	Y76

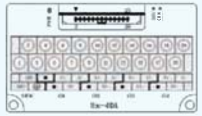
Terminal Layout-H2U Expansion Module

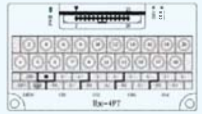
I/0 expansion module

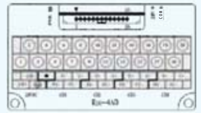


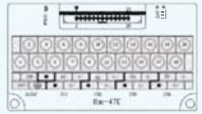


Analog expansion module



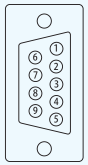






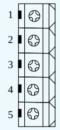
Terminal Layout-H2U Communication Expansion Card

H2U-232-BD



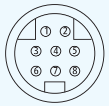
Pin No.	Signal	Description
1	CD	Data Carrier (input)
2	RXD	Recieve X Data (output)
3	TXD	Set X data (output)
4	DTR	Data Terminal Ready(output)
5	GND	Grounding
6	DSR	Data Set Ready (input)
7.8	-	Connected driectly with two pins
9	-	No link internal

H2U-485IF-BD



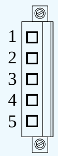
Pin No.	Signal	Description
1	RA	485 signal RXD signals +
2	RB	485 signal RXD signals -
3	TA	485 signal RXD signals +
4	TB	485 signal RXD signals -
5	GND	Grounding

H2U-422-BD



Pin No.	Signal	Description
1	RB	485 signal RXD signals -
2	RA	485 signal RXD signals +
3	GND	Grounding
4	TB	TXD signals - of 485 signal
5	VDD	5V+
6	NC	NC
7	TA	TXD signals - of 485 signal+
8	NC	NC
Metal Shell	GND	Grounding

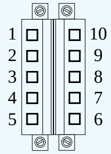
H2U-CAN-BD



Pin No.	Signal	Description
1	+24V	External 24V power supply(positive)
2	GND	External 24V power supply(negative)
3	PGND	Shielding layer
4	CANL	CAN signal low
5	CANH	CAN signal high

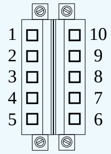
Terminal Layout-H2U Analog Expansion Card

H2U-3A-BD



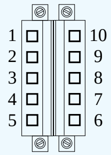
Pin No.	Signal	Description
1	V1+	Ch1 voltage signal input terminal
2	I1+	Ch1 current signal sampling resistance terminal
3	V1-	Ch1 signal input reference terminal
4	VO+	AO voltage signal
5	GND	AO voltage signal reference terminal
6	NC	Reserved
7	IO+	Ao current output terminal
8	V2-	Ch2 signal input reference terminal
9	I2+	Ch2 current signal sampling resistance terminal
10	V2+	Ch2 voltage signal input terminal

H2U-6A-BD



Pin No.	Signal	Description
1	V1+	Ch1 voltage signal input terminal
2	V2 +	Ch2 voltage signal input terminal
3	I3 +	Ch1 current signal sampling resistance terminal
4	I4 +	Ch2 current signal sampling resistance terminal
5	GND	Input public grounding terminal
6	GND	Output public grounding terminal
7	I0 1 +	Ch1current output terminal
8	V01 +	Ch1voltage output terminal
9	I0 2 +	Ch2 current output terminal
10	Vo2 +	Ch2 voltage output terminal

H2U-6B-BD



Pin No.	Signal	Description
1	I1+	Ch1 current signal input terminal
2	I2 +	Ch2 current signal input terminal
3	I3 +	Ch3 current signal input terminal
4	I4 +	Ch4 current signal input terminal
5	GND	Input public grounding terminal
6	GND	Output public grounding terminal
7	I0 1 +	Ch1 current output terminal
8	V01 +	Ch1 voltage output terminal
9	I0 2 +	Ch2 current output terminal
10	Vo2 +	Ch2 voltage output terminal

Features of H1U Series Programmable Controller

- Built-in large program memory space without an external extension memory card, it can up to 8K steps.
- User program and all the power-down devices can be permanent backup in power-off status, and the real-time clock can keep at least 20 days in power-down situations without batteries (power-on time is longer than 5 minutes).
- Provide high-speed, multi-channel and high frequency I/O ports, as well as excellent operation and positioning control functions.
- Integrate two independent communication ports, providing excellent communication protocols and MODBUS instruction, which is convenient for system integration.
- Comprehensive encryption features can protect users' intellectual property rights.
- With powerful networking and support CAN-BUS.

H 1U -0806M R A X

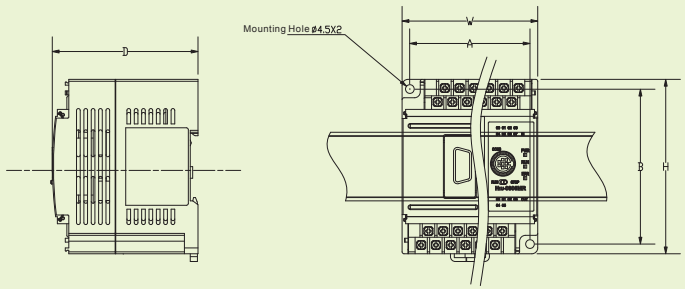
1 2 3 4 5 6 7 8

1. Product information
   H: Inovance controller
2. Series Number
   1U: 1U series controller
   2U: 2U series controller
3. Input number
   08: 8-point input
4. Output number
   06: 6-point output
5. Module Classification
   M: Main module of general-purpose controller
   P: Positioning controller
   N: Network controller
   E: Expansion module
6. Output type
   R: Relay output type
   T: Transistor output type
7. Power supply type
   A: AC220V input, omitted default: AC220V
   B: AC110V input
   C: AC24V input
   D: DC24V
8. Special function flag,such as high-speed I/O and analog function, etc.

Basic Parameters

Model	Total I/Os	I/O Features					
		Total I/Ps	Hi-speed I/Ps	Input voltage	Total O/Ps	Hi-speed O/Ps	Output type
H1U-0806MR H1U-0806MT	14	8	Two 60kHz Four 10kHz	DC24V	6	/ Three 100kHz	Relay Transistor
H1U-1410MR H1U-1410MT	24	14	Two 60kHz Four 10kHzK	DC24V	10	/ Three 100kHz	Relay Transistor
H1U-1610MR H1U-1610MT	30	16	Two 60kHz Four 10kHzK	DC24V	14	/ Three 100kHz	Relay Transistor

Mounting Dimension

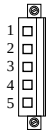


Model	Total I/Os	Mounting Dimension		Physical Dimension W×H×D(mm)
		A(mm)	B(mm)	
H1U-0806MR/MT	14	62	80	70×90×75
H1U-1410MR/MT	24	83	80	93×90×75
H1U-1614MR/MT	30	100	80	110×90×75

System Expansion

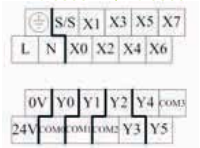
H1U Series of PLC does not support the local expansion module. The CAN-BUS installation of expansion cards can support remote expansion module, the system can be extended up to 64 stations (support CAN-BUS devices), the main module is included.

■H1U-CAN-BD

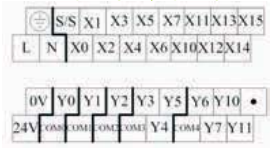


Pin No.	Signal	Description
1	+24V	External 24V power supply(positive)
2	GND	External 24V power supply(negative)
3	PGND	Shielding layer
4	CANL	CAN signal low
5	CANH	CAN signal high

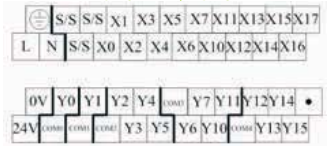
■Terminal block definition of H1U-0806MR,H1U-0806MT



■Terminal block definition of H1U-1410MR,H1U-1410MT



■Terminal block definition of H1U-1614MR,H1U-1614MT



H1U Main Module Electrical Specifications

Input Specifications

Item		High-speed inputs X0 - X5	General inputs
Signal input mode		Sink/Source mode.It is sink input when S/S terminal and 24V are shorted connection. It is source when s/s terminal and COM are shorted connection.	
Electrical parameters	Detection voltage	DC24V	
	Input resistance	3.3k	4.3k
	Input: ON	Input current is more than 4.5mA	Input current is more than 3.5MA
	Input: OFF	Input current is less than 1.5mA	Input current is less than 1.5mA
Filtering function	Digital Filter	X0 to X7 has digital filter function, the filter time can be set during the range of 0 to 60 msec.	
	Hardware Filter	The other I/O port is hardware filter except X0 to X7, the filter time is about 10 msec.	
High-speed Function		X0 to X5 can realize the function with high-speed counting,interrupt and pluse capture,etc. The maximum frequency of the X0 to X1 port counting up to 60kHz. The maximum frequency of the X2 to X5 port counting up to 10kHz.	
Common connection terminal		Only a common terminal: S/S	

Note: S/S connecting to 24V+ or COM determines the SINK or SOURCE input mode, the selection is effective to all the input points' signals in main unit.

Output Specifications

Item		Relay output port	Transistor output port
Circuit Voltage		Below AC250V, DC30V	DC5~24V
Circuit Insulation		Relay mechanical insulation	Photo-coupler insulation
LED		When the relay output contacts close, the LED light is on.	When the Photo-coupler is drived, LED light is on.
Leakage current during open circuit		/	Less than 0.1mA/DC30V
Min.load		2mA/DC5V	5mA; (DC5~24V)
Max. output current	Resistive load	2A/1 point: 8A/4 points common port, 8A/8 points common port	0.5A/point; 0.8A/4 points; 1.6A/8 points
	Inductive load	AC220V, 80VA	High speed port: 7.2W/DC24V; Others: 12W/DC24V
	Lamp Load	AC220V, 100W	High speed port: 0.9W/DC24V; Others: 1.5W/DC24V
ON response		20ms Max	High speed output: 10μs; Others: 0.5ms
OFF response		20ms Max	
High-speed output frequency		/	100kHz per channel(Max.)
Output common ports		Each group shared a common port, there is insulated gap between the groups	
Fuse protection		None	

Performance Specification

Auxiliary Relay M	[M0~M383] 384 points General		[M384~M1535] 1152 points Latched		M8000~M8255 256 points Special
State	[S0-S999] 1000 points Retentive				
Timer(T)	T0~T199 200 points 100ms General		T200~T245 46 points 10ms General	[T246~T249] 4 points1ms Accumulative, retentive	[T250~T255] 6 points100ms Actuarial,retentive
Counter©	16 bit count-up counter		32 bit count-up/down counter		High-speed counter
	C0~C 15 16 points General	[C16~C199] 168 points Retentive	C200~C219 20 points General	[C220~C234] 15 points Retentive	[C235~C255] 21 points Retentive
Data register D,V,Z	D0~D127 128 points General	[D128~D7999] 7872 points Retentive	[D1000~D7999] Max.7000 points It can be set to the file register.	[D8000~D8255] 256 points Special	V7~V0, Z7~Z0 16 points Idex
Nestings and pointers	N0~N7 8 points Master Control		P 0~P127 128 points Jump subprogram		I00*~I50* 6 points Input interrupt pointers
Constants K	16 bit 32,768~32,767		32 bit 2;147,483,648~2,147,483,647		
Constants H	16 bit 0~FFFFH		32 bit 0~FFFFFFFFH		

Product Index

H1U/H2U Main Modules

Model	Name	Type
H1U-0806MR	14-point programmable controller, relay output	H1U main module
H1U-0806MT	14-point programmable controller, transistor output (Three high-speed output)	H1U main module
H1U-1410MR	24-point programmable controller, relay output	H1U main module
H1U-1410MT	24-point programmable controller, transistor output (Three high-speed output)	H1U main module
H1U-1614MR	30-point programmable controller, relay output	H1U main module
H1U-1614MT	30-point programmable controller, transistor output (Three high-speed output)	H1U main module
H2U-1616MR (N)	32-point programmable controller, relay output	H2U main module
H2U-1616MT (N)	32-point programmable controller, transistor output (Three high-speed output)	H2U main module
H2U-2416MR (N)	40-point programmable controller, relay output	H2U main module
H2U-2416MT (N)	40-point programmable controller, transistor output (Two high-speed output)	H2U main module
H2U-3624MR (N)	60-point programmable controller, relay output	H2U main module
H2U-3624MT (N)	60-point programmable controller, transistor output (Two high-speed output)	H2U main module
H2U-3232MR (N)	64-point programmable controller, relay output	H2U main module
H2U-3232MT (N)	64-point programmable controller, transistor output (Three high-speed output)	H2U main module
H2U-3232MTQ (N)	64-point programmable controller, transistor output (Five high-speed output)	H2U main module
H2U-4040MR (N)	80-point programmable controller, relay output	H2U main module
H2U-6464MR (N)	128-point programmable controller, relay output	H2U main module
H2U-6464MT (N)	128-point programmable controller, transistor output (Three high-speed output)	H2U main module

Expansion Modules

Model	Name	Type	Applicable model H1U	Applicable model H2U General purpose	Applicable model H2U N
H2U-0016ERN	H2U series local relay output expansion modules	16-point relay output local modules		✓	✓
H2U-0016ETN	H2U series local transistor output expansion modules	16-point transistor output local modules		✓	✓
H2U-1600ENN	H2U series local input expansion modules	16-point input local modules		✓	✓
H2U-2AD	H2U series local analog input modules	2-channel voltage and current input local modules		✓	✓
H2U-2DA	H2U series local analog output modules	2-channel voltage and current output local modules		✓	✓
H2U-4AD	H2U series local analog input modules	4-channel voltage and current input local modules		✓	✓
H2U-4DA	H2U series local analog output modules	4-channel voltage and current output local modules		✓	✓
H2U-4PT	H2U series local thermal resistance input modules	4-channel thermal resistance input local modules		✓	✓
H2U-4TC	H2U series local thermocouple input modules	4-channel thermocouple input local modules		✓	✓
H2U-4AM	H2U series local analog mixed-modules	2-channel voltage and current input 2-channel voltage and current output local modules		✓	✓
H2U-6AM	H2U series local analog mixed-modules	4-channel current input 2-channel voltage and current output local modules		✓	✓
H2U-0016ERDR	H2U series remote relay output expansion modules	16-point relay output remote modules	✓		✓
H2U-0016ETDR	H2U series remote transistor output expansion modules	16-point transistor output remote modules	✓		✓
H2U-1600ENDR	H2U series remote input expansion modules	16-point input remote modules	✓		✓
H2U-2ADR	H2U series remote analog input modules	2-channel voltage and current input remote modules	✓		✓
H2U-2DAR	H2U series remote analog output modules	2-channel voltage and current output remote modules	✓		✓
H2U-4ADR	H2U series remote analog input modules	4-channel voltage and current input remote modules	✓		✓
H2U-4DAR	H2U series remote analog output modules	4-channel voltage and current output remote modules	✓		✓
H2U-4PTR	H2U series remote thermal resistance input modules	4-channel thermal resistance input remote modules	✓		✓
H2U-4TCR	H2U series remote thermocouple input modules	4-channel thermocouple input remote modules	✓		✓
H2U-4AMR	H2U series remote analog mixed-modules	2-channel voltage and current input 2-voltage and current output remote modules	✓		✓
H2U-6AMR	H2U series remote analog mixed-modules	4-channel current input 2-channel voltage and current output remote modules	✓		✓

Expansion Card

Model	Name	Type	Applicable model H1U	Applicable model H2U
H2U-232-BD	232 communication card	H2U expansion card(BD board)		✓
H2U-422-BD	422 communication card	H2U expansion card(BD board)		✓
H2U-485IF-BD	H2U series isolation 485 communication expansion card	H2U expansion card (BD board,isolation)		✓
H2U-3A-BD	3A analog input expansion card(2 inputs & 1 output)	H2U expansion card(BD board)		✓
H2U-6A-BD	6A analog input expansion card(4 inputs & 2 outputs, input 2-voltage and 2-current)	H2U expansion card(BD board)		✓
H2U-6B-BD	6B analog input expansion card(4 inputs & 2 outputs, input 4-current)	H2U expansion card(BD board)		✓
H2U-CAN-BD	H2U series CAN communication expansion card(for remote expansion modules)	H2U expansion card(BD board)		✓
H1U-CAN-BD	H1U series CAN communication expansion card(for remote expansion modules)	H1U expansion card(BD board)	✓	

Application of Inovance H2U Series PLC in Ultrafine-line Dual-frequency Drawbench without Arms

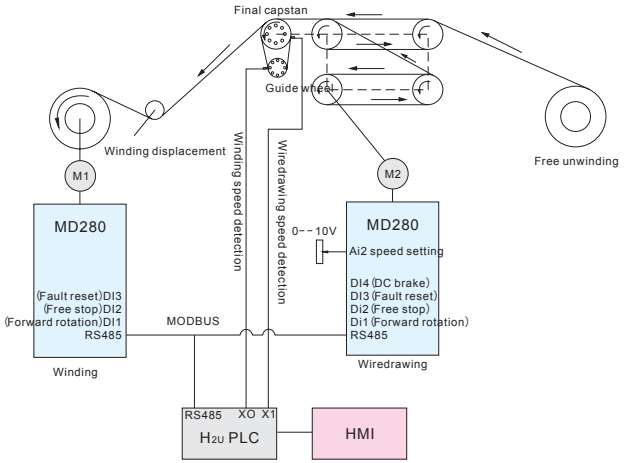
Preface

Superfine wire drawing machine means that the wire diameter of the incoming line is between 0.1 to 0.5mm, and the diameter of the finished wire is between 0.03 to 0.15mm.

The traditional superfine wire drawing machine is the single-variable frequency. The system can adjust the belt position on two conical wheels via final capstan detection and guide wheel to control the speed difference (change to the pulley speed ratio).With the market development, the higher the customer's requirement is, the obvious the disadvantage of the single-frequency wire drawing machine will be. Firstly, the cone wheel belt has two fault points, serious damage and high damage rate. Secondly, the running speed can not be increased which is by the limited of mechanical structures, effect the production efficiency. Therefore, the variable-frequency wire drawing machine adopts the PLC contactless detection and data processing to control linear-speeds of two motor, and ensure the constant slip differential.

Dual-variable-frequency wire drawing integration

As shown in the following figure, there are two dynamic links wire drawing machine and winding machine. Host speed can be input to AI2 via the potentiometer to control the speed of the whole machine.PLC can calculate the speed differential via detecting final capstan and the pulse density of the guide wheel, control line transducer frequency to ensure that slip differential constant. Because the outlet wire of the superfine wire drawing machine is very thin, and using the swing arm to detect the tension that can cause the wire damaged so as the swing arm can be easily broken, so that there is no direct tension detection that compared with the traditional wet drawing machines. HMI can be the data setting and running parameter monitor.



Application Advantage of H2U Series PLC in Wiring Drawing Machine

1)Fast instruction execution time

Up to 3335 steps, building in a large number of complex instructions, such as PID, SPD, floating-point calculations, floating-point comparison, and the scanning time is only 6ms.

2)Fast communication speed and Simple Programming

Baud rate of MODBUS communication can up to 3840BPS so as to adjust PID quickly, while the majority of brand minicomputer support only 1920BPS. Communication programming is simple. RS instruction can be realized by the other program to complete system program, then achieve easy communication and control.

4)Powerful data processing capacity

Support floating point calculations, floating-point comparison, PID calculation and pulse density so as to achieve the precise control easily.

6)Support multi-brand HMI communication

With more than one year of application and development, H2U series PLC has been communicated with most of brands freely, so that there is a strong integration of H2U.

7)Humanized programming interface

Programming environment is more human due to considering the usability and usage pattern, then easily achieve program and procedures conversion.

8)Excellent encryption

Each code corresponds to 8 ASCII code data to achieve a variety of combinations. All the encryption should be processed in the main chip to protect your intellectual property that will never be violated.

Service Network

Shenyang
(Crane Industry)

Suzhou
(Elevator Industry)

Headquarter in Shenzhen

- Shenzhen:
  - Shenzhen Inovance Investment Technology Co., Ltd.
  - Shenzhen Inovance Technology Co., Ltd.
  - Shenzhen Inovance Control Technology Co., Ltd. (focusing on PLC/HMI)
- Suzhou:
  - Suzhou Monarch Control Technology Co., Ltd. (focusing on elevator market)
  - Suzhou Inovance Technology Co., Ltd.
- Shenyang:
  - Shenyang Inovance Crane Control Technology Co., Ltd. (focusing on the carne market)

0 ffice

Set up the corporate headquarter in Shenzhen as well as branch companies in Suzhou, Shenyang and so on.
29 offices throughout China
More than 200 sales and service engineers
147 retailers
50 nationwide warrantee centers
4 stock-centers
Quickly responding to customer needs