INOVANCE

Controller Technical Brochure
Expansion Module and HMI

For More Accurate Bus Control

Industrial Automation

Intelligent Elevator

New Energy Vehicle
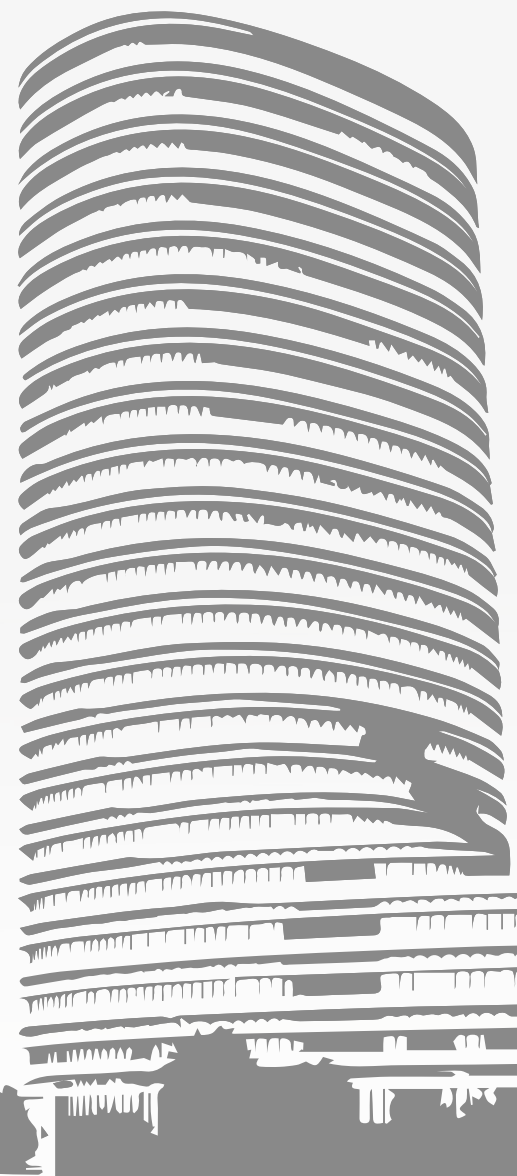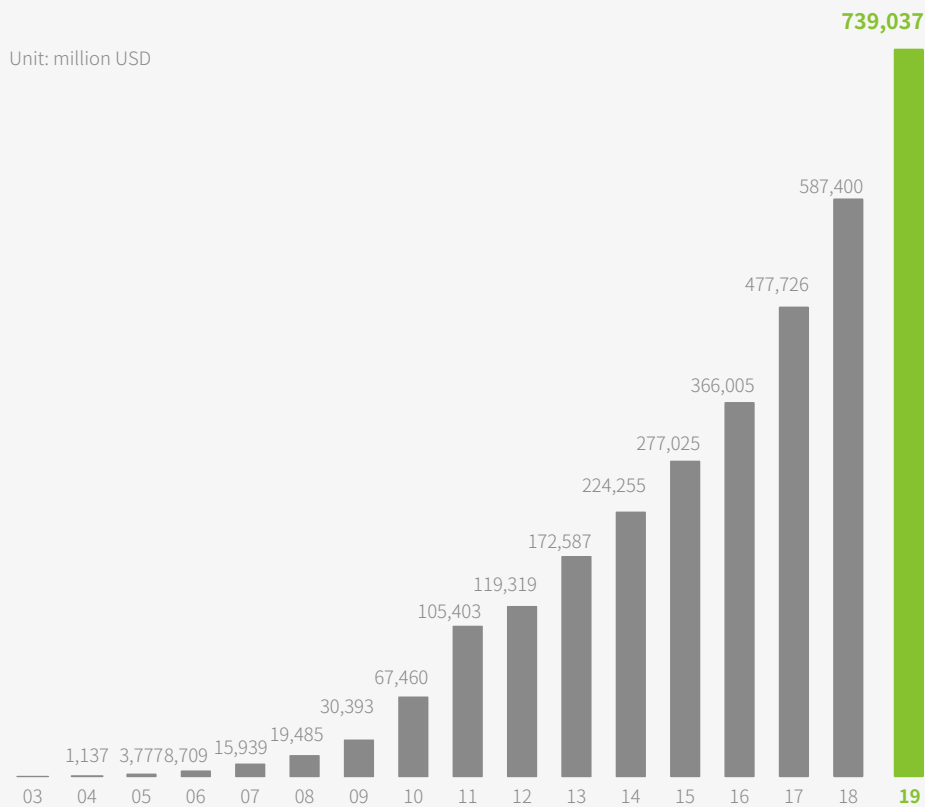
Industrial Robot

Rail Transit

Shenzhen Inovance Technology Co., Ltd.

Founded in 2003, A-share listed company, stock code: 300124

Leader of industrial automation control and drive technology in China

Advancing Industrial Technology, For A Better World

Unit: million USD

739,037

587,400

477,726

366,005

277,025

224,255

172,587

119,319

105,403

67,460

30,393

19,485

15,939

1,137 3,777 8,709

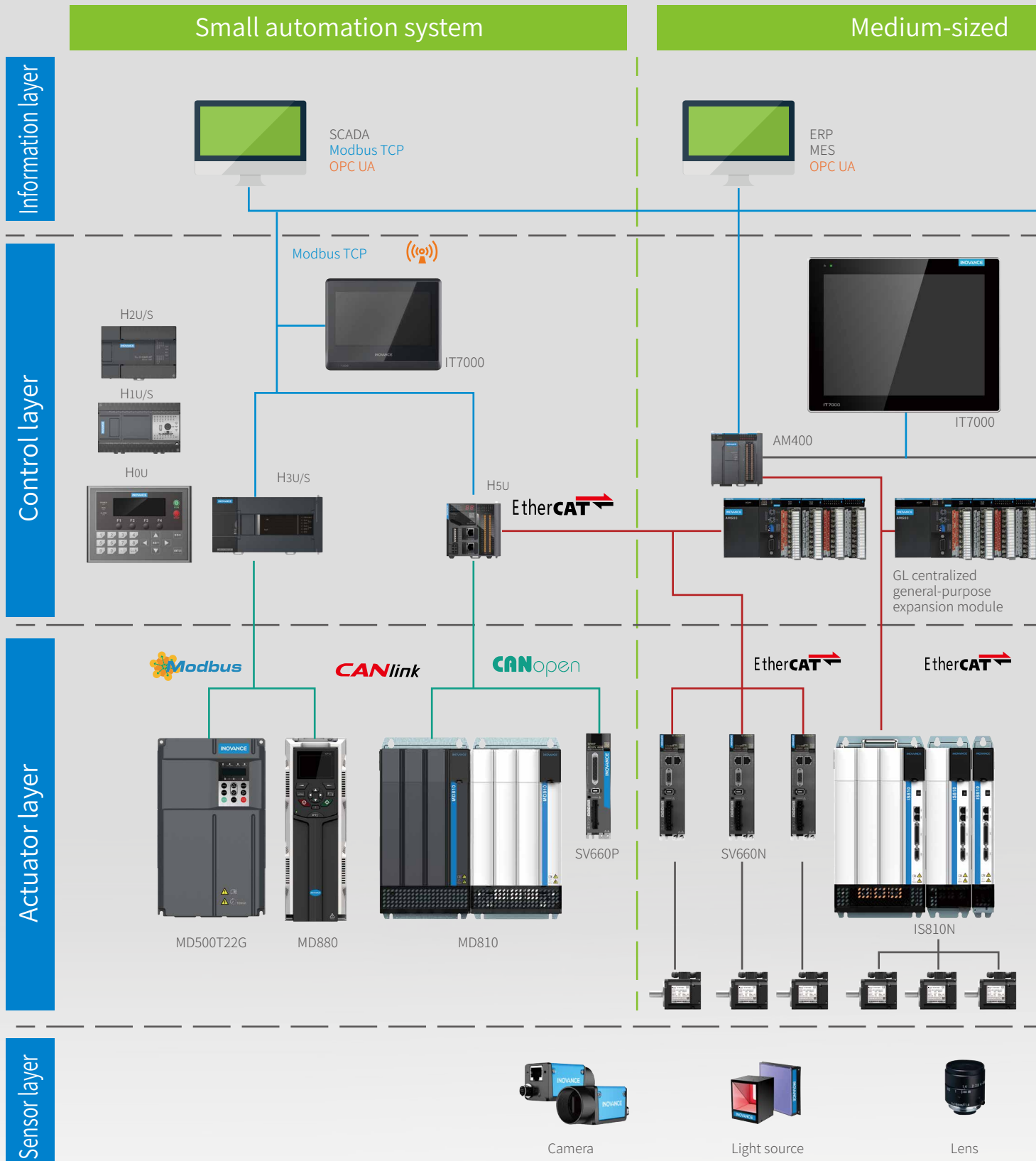| 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | **19** |

Shenzhen Inovance Control Technology Co., Ltd.

An industrial automation company controlled by Shenzhen Inovance Technology Co., Ltd., focusing on R & D, production and sales of PLCs, intelligent controllers, HMIs, industry-specific controllers, and providing comprehensive technical support services on controllers. In 13 years since its inception, the company has independently developed a full range of controllers covering micro PLCs, general-purpose small PLCs, high-performance small PLCs, medium-sized PLCs, and intelligent controllers, with multiple I/O configurations and performance classes. The third generation IT7000 HMI provides users with hardware products and control solutions for logic control, process control and high-speed motion control. The company has become a key part supplier and partner of a variety of OEMs, manufacturers of advanced manufacturing equipment for lithium batteries, smart phones, printing and packaging, and TP/LED, and EU users of high-end heavy equipment.

Inovance's Industrial Automation Product Lineup

Small automation system

Medium-sized

Information layer

SCADA
Modbus TCP
OPC UA

ERP
MES
OPC UA

Control layer

H2U/S

H1U/S

H0U

H3U/S

H5U

Modbus TCP

IT7000

EtherCAT

IT7000

AM400

GL centralized
general-purpose
expansion module

Actuator layer

Modbus

CANlink

CANopen

EtherCAT

EtherCAT

SV660P

SV660N

IS810N

MD500T22G

MD880

MD810

Sensor layer

Camera

Light source

Lens

Inovance delivers products covering all general automation applications, and provides a complete range of comprehensive solutions based on the information layer, control layer, actuator layer, and sensor layer. The automation system based on Inovance's small PLCs, medium-sized PLC and intelligent controllers has significantly enhanced the competitiveness of a large number of OEMs and manufacturers of lithium batteries, mobile phones, printing and packaging, TP/LED, and semiconductors.

automation system

Large automation system

Inovance Cloud

Modbus TCP
OPC UA

Security server
Configuration server
OPC UA

Modbus TCP

Modbus TCP
OPC UA

Modbus TCP
OPC UA

AM600

AP700

AC801   AC802   AC810   AC812   AT900
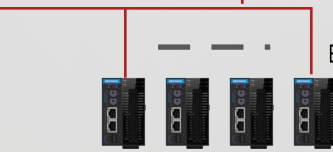
GR series distributed high-speed expansion module
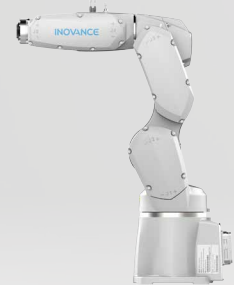
EtherCAT

EtherCAT

EtherCAT   EtherCAT

Modbus TCP

SV820N

SV660N   SV660N

Encoder   Optoelectronic switch   Magnetic switch
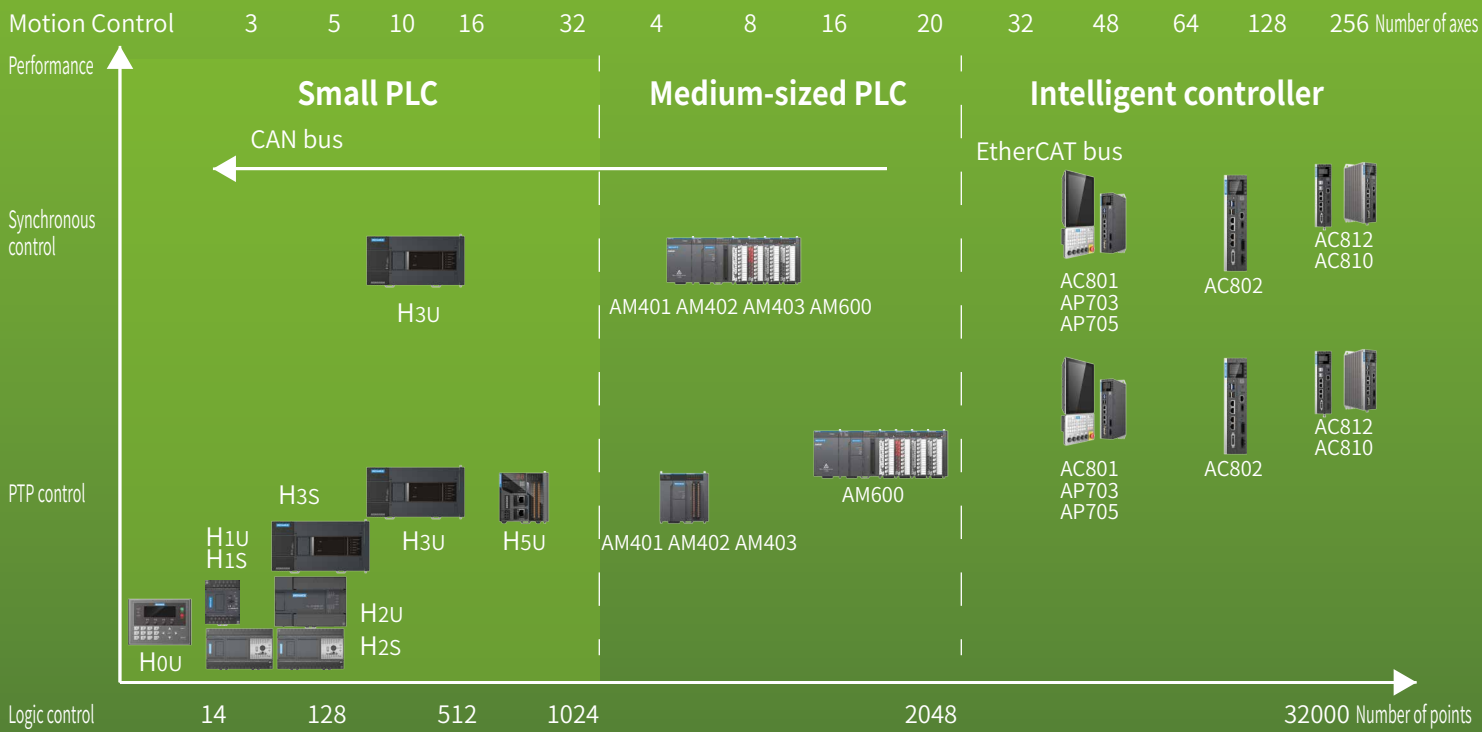
Introduction To PLC Products

Inovance's PLC products include small PLCs, medium-sized PLCs and intelligent controllers.
The small PLCs, which include H0U, H1U/H1S, H2U/H2S, H3U/H3S, and H5U series, are mainly used in logic control and point-to-point control and supports up to 2048 points and 32 axes.
The Medium-sized PLCs, which include AM400 and AM600 series, are mainly used in motion control. They come with CNC, electronic cam, and electronic gear functions, and support 8-axis synchronous control, 20-axis PTP control, and 2048-point I/O logic control.
The intelligent controllers, which include AP700 series display and controller integration and AC800 series booksize high-performance products, are mainly used in multi-axis motion control. The AP700 series with built-in CNC function is adaptable to machine tool equipment control. It support up to 32-axis synchronous and PTP control. The AC800 series is designed for the control of large and complex mechanical equipment, and supports up to 256-axis synchronous and PTP control.

PLC product family

Motion Control   3   5   10   16   32   4   8   16   20   32   48   64   128   256 Number of axes

Performance

Small PLC   **Medium-sized PLC**   **Intelligent controller**

CAN bus

Synchronous control

H3U   AM401 AM402 AM403 AM600

AC801 AP703 AP705   AC802   AC812 AC810

EtherCAT bus

PTP control

H3S   H3U   H5U   AM600   AC812 AC810

H1U H1S   AM401 AM402 AM403   AC801 AP703 AP705   AC802

H2U H2S

H0U

Logic control   14   128   512   1024   2048   32000 Number of points

Introduction to Inovance HMI products

HMI product family

The HMI products include the IT6000 series and IT7000 series. They are sized from 4.3" to 15". While perfectly adapted to Inovance's PLCs, AC drives and servos, they are also compatible with the products from major manufacturers. The new-generation IT7000 series delivers perfect data visualization and responsive operation. It caters not only for operation and monitoring of common small equipment, but also for that of complex equipment and production processes. It is cost-effective.

Series

2G GSM

IT6070-IOT   ITP60

IT7070   IT7100   IT7150

IT6043   IT6070   IT6100

Functions and specifications

Contents

AC800 Series

High-performance intelligent controller

164mm

265 mm

60mm

High-end controller
with powerful computing performance

- CPU: Intel Core i7, i5, or Celeron series.
- Support for 6 PLCopen-compliant programming languages.
- System software: PLCopen + CAM + CNC + ROBOT.
- AC810 dual EtherCAT master network: 32 axes at 500 us EtherCAT period; 256 axes at 4 ms EtherCAT period.
- EtherCAT bus I/O expansion support up to 32000-point high-speed I/O expansion and common DI/DO expansion.
- Multi-layer networking due to support for multiple communication protocols including EtherNet/IP, OPC/UA, and ModbusTCP.
- Use with legacy equipment through built-in ModbusRTU master/slave protocol and 2 separate communication interfaces RS485 and RS232.

Multi-axis synchronous motion control	Edge computing carrier	Integrated industry process library
Functions: sync-enabled manipulator, CNC, electronic cam, and electronic gear.	Powerful computing performance due to i7 + 128GSSD + 4GDDR	General instruction library, packaging process library, silicon crystal industry library, lithium battery process library (square winding) ...
High precision: jitter within 30 us	Data processing library: used for big data processing, file processing, and production line data collection and processing	

Ports

USB3.0 ×2

USB2.0 ×2

Gigabit Ethernet × 2

EtherCAT ×2

DVI

Longlife Fan

Controller system
status display module

3DI+2DO

RS485+RS232

24 VDC input (3 A)
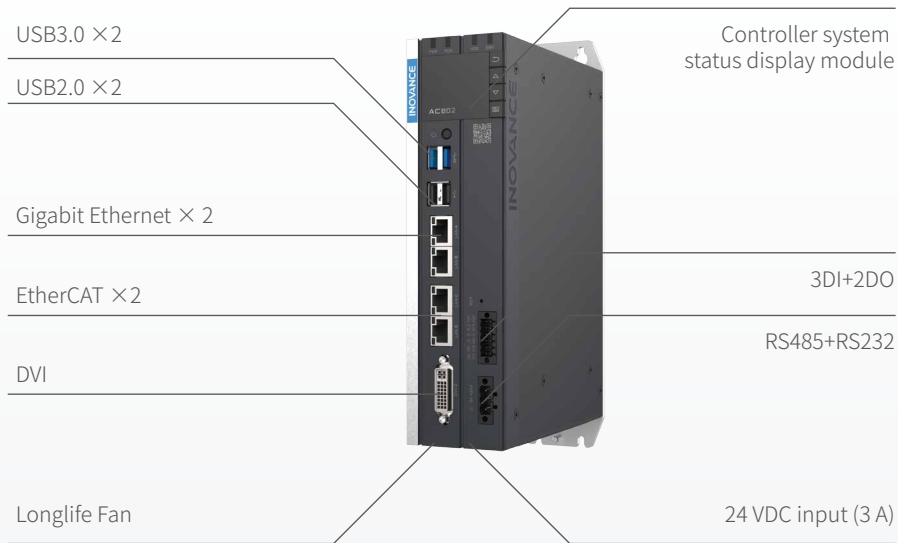
Product Specifications

Item	AC812	AC810	AC802	AC801
Processor	Intel i7, 2.7GHz	Intel i5, 2.5GHz	Intel Celeron, 1.6GHz	Intel Celeron, 1.6GHz
Memory	DDR4-4G	DDR4-4G	DDR4-4G	DDR4-4G
Hard Drive	SSD128G	SSD128G	SSD128G	SSD64G
Display and Interface	DVI-D			
	Built-in system status display module, 128 x 64 dot matrix, 4 buttons			
Ethernet LAN	LAN x 2, for Modbus TCP, UDP, and OPC UA			
EtherCAT Bus	EtherCAT master x 2	EtherCAT master x 2	EtherCAT master x 2	EtherCAT master x 1
Axis Capacity	128 + 128 axes	128 + 128 axes	64 + 64 axes	48 axes (32 axes at 1 ms period)
USB Port	USB 2.0 x 2; USB 3.0 x 2			
Serial Port	RS485 x 1; RS232 x 1			
DI	3, for input of system function signals			
DO	2, for output of system status indication signals			
Cooling Fan	2 long-life fans	2 long-life fans	None	None
User Program Capacity	128 MB	128 MB	128 MB	128 MB
User Data Capacity	128 MB	128 MB	128 MB	128 MB
Capacity Retained at Power Failure	5 MB (UPS is mandatory)	5 MB (UPS is mandatory)	5 MB (UPS is mandatory)	5 MB (UPS is mandatory)

AC800 Applications

Rotary die cutting machine
Leading core technology algorithm

Keywords:
AC810, common DC bus servo, high-speed probe, synchronization performance, 35-axis synchronous control
Convenient installation and maintenance, and energy-saving
Sync: 60 m/min; accuracy: ±0.05 mm
Async: 25 m/min; accuracy: ±0.1 mm
Tension control accuracy: 1 N

IT7000

AC810

EtherCAT

Cutter shaft   Rewinding and unwinding

F2   F3   F4   F5

F6

F1   Traction 1   Cutter 1   Cutter 2   Cutter 3   Traction 2

F10   F9   F8   F7
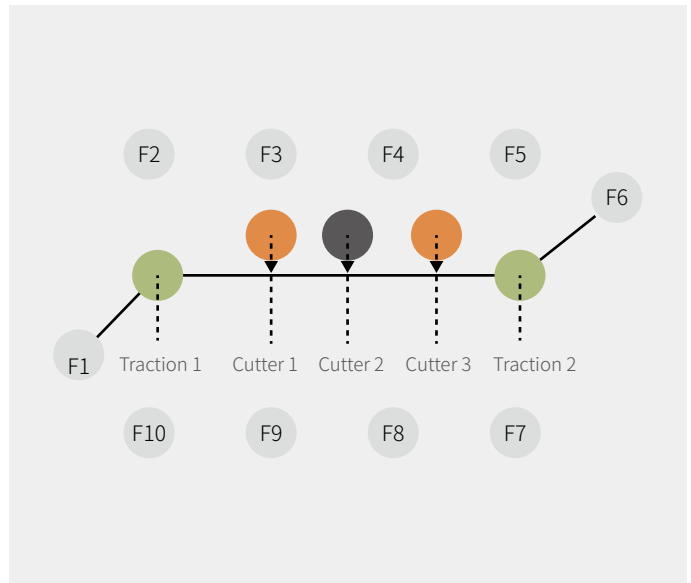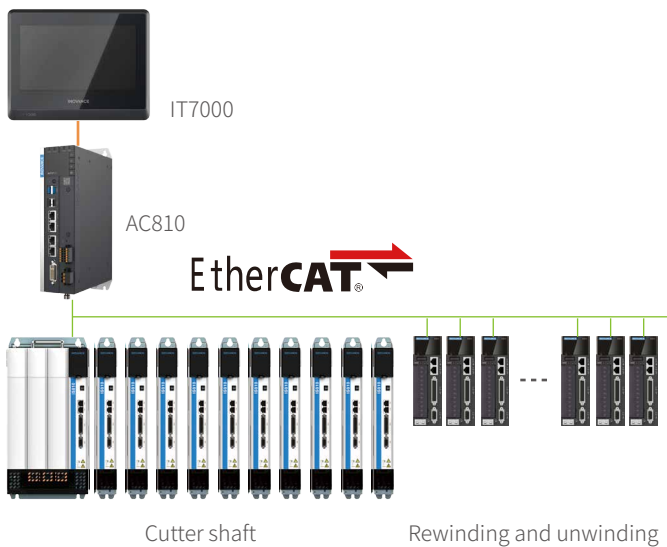
National Day Parade floats
Extreme multi-axis synchronous control stability

Keywords:
AC810, synchronous control, 88 separate metal plates, vivid ocean wave simulation
88-axis synchronous control
Trajectory planning
Digital ocean
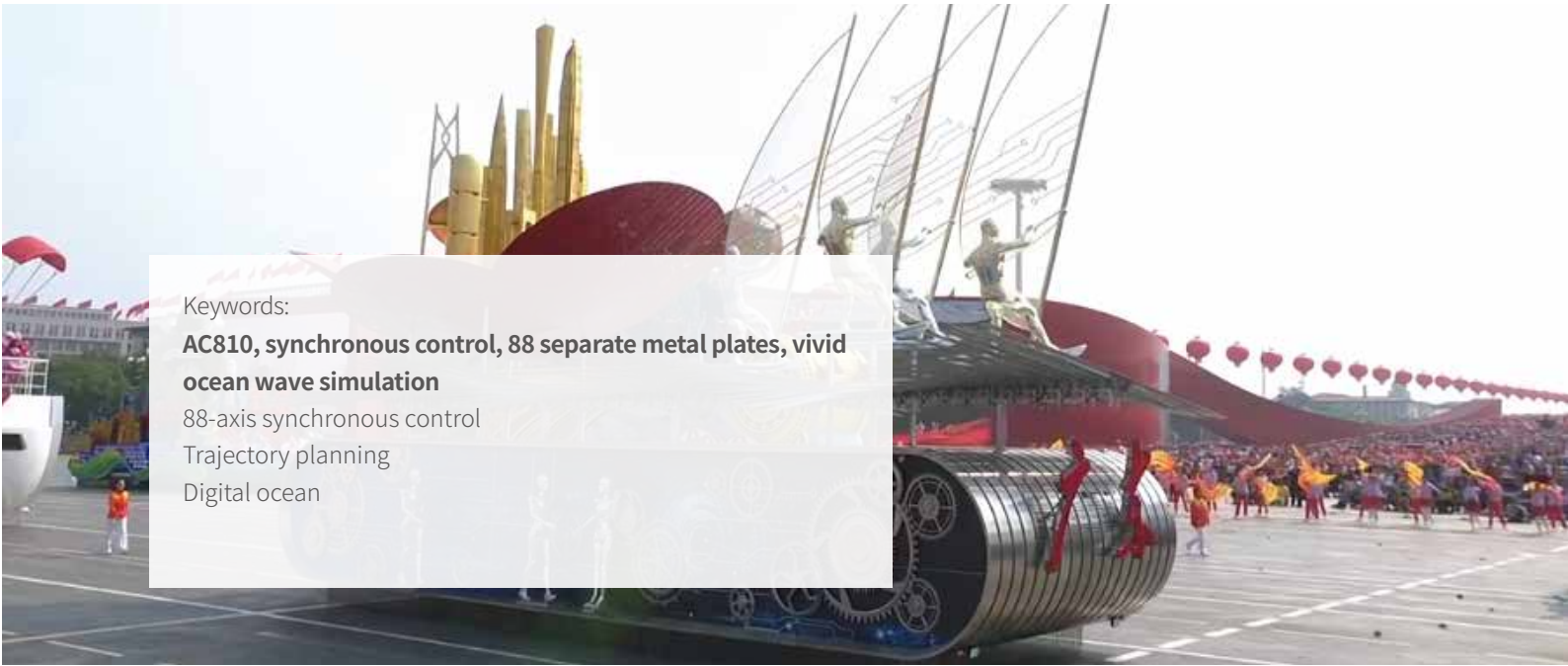
AC800 Applications

Square lithium battery winding machine

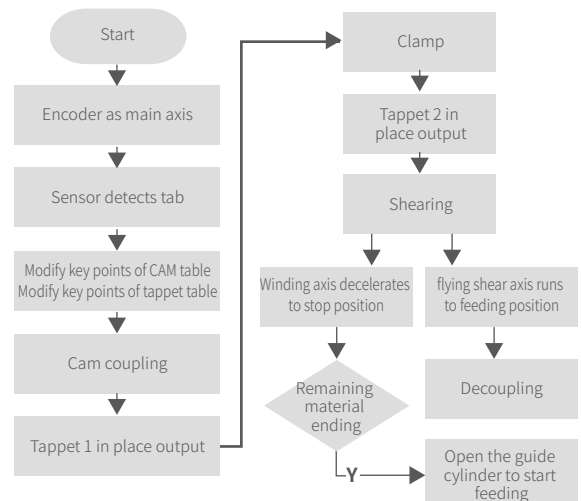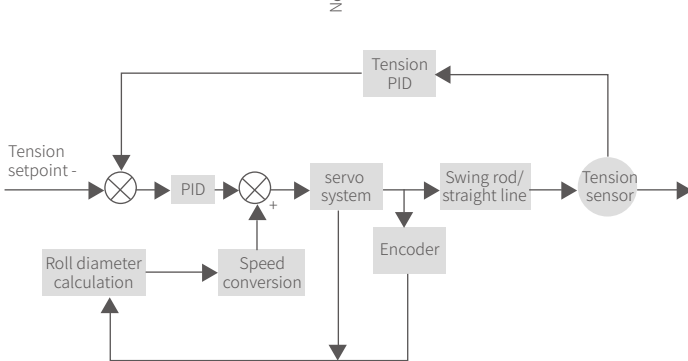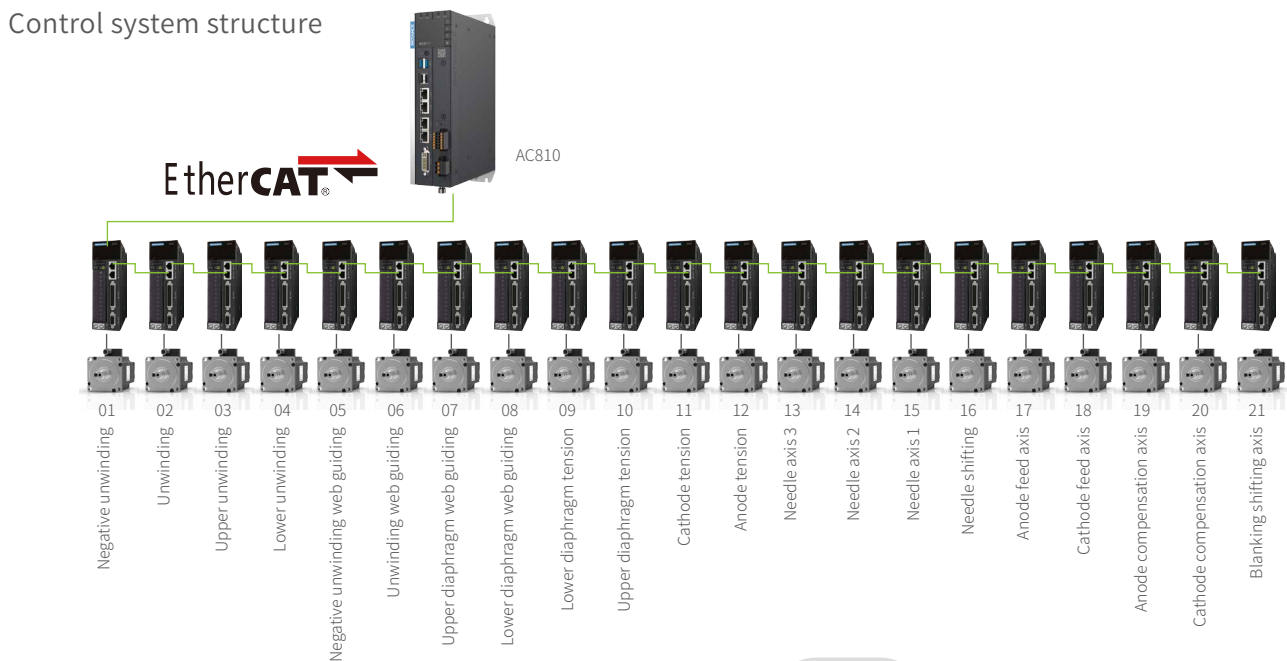## Tab-forming and winding integration solution brings high efficiency

The square lithium battery features simple structure, light weight accessories, and high energy density. Square battery manufacturing involves two different processes: winding and stacking.

In the winding control, tension is controlled by moving the battery electrode film and the insulating film at a uniform speed through the non-uniform rotation of the winding needle. In this way, product quality and winding efficiency are improved. A cam motion control algorithm with a virtual main axis is used in the control program. The winding control also involves tab alignment, diaphragm web guiding, and tension control. The high-speed movement of the diaphragm requires extreme fast computation speed of the controller. The AC810 controller, which provides large load rate margin, is a perfect match for this purpose.

Control system structure

AC810

EtherCAT

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21

- 01 Negative unwinding
- 02 Unwinding
- 03 Upper unwinding
- 04 Lower unwinding
- 05 Negative unwinding web guiding
- 06 Unwinding web guiding
- 07 Upper diaphragm web guiding
- 08 Lower diaphragm web guiding
- 09 Lower diaphragm tension
- 10 Upper diaphragm tension
- 11 Cathode tension
- 12 Anode tension
- 13 Needle axis 3
- 14 Needle axis 2
- 15 Needle axis 1
- 16 Needle shifting
- 17 Anode feed axis
- 18 Cathode feed axis
- 19 Anode compensation axis
- 20 Cathode compensation axis
- 21 Blanking shifting axis

Tension PID

Tension setpoint → PID → servo system → Swing rod/straight line → Tension sensor

Roll diameter calculation → Speed conversion → Encoder

Start → Encoder as main axis → Sensor detects tab → Modify key points of CAM table / Modify key points of tappet table → Cam coupling → Tappet 1 in place output

Clamp → Tappet 2 in place output → Shearing → Winding axis decelerates to stop position / flying shear axis runs to feeding position → Remaining material ending → Decoupling → Open the guide cylinder to start feeding

Y

Bus ribbon automatic soldering machine

Multi-station overall control greatly reduces labor costs

In photovoltaic panel production, small pieces of solar panels need to be connected in series by welding to form a photovoltaic panel. Traditionally, the welding is carried out manually, with low efficiency and poor quality consistency. The AC810 controller allows for automatic welding. The part in the red rectangle as shown in the right figure is to be soldered:
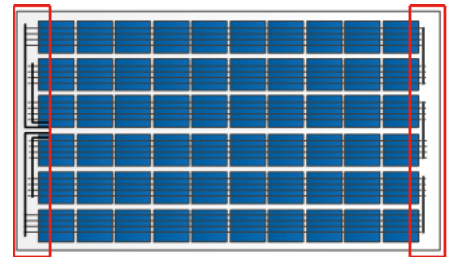
In the bus solder solution, An AC810 controller, which integrates motion control and logic control, is used to control 65 servos through an EtherCAT bus in a flexible and high-speed manner. A DDL motor is used for key axes such as the soldering station and a DDR motor is used for scenarios that require high torque, high precision and alignment. This solution can replace 3 skilled workers and significantly improve production efficiency and quality by completing half-cell module soldering, conventional soldering, and double-glass module soldering in 25s respectively.

Control system structure
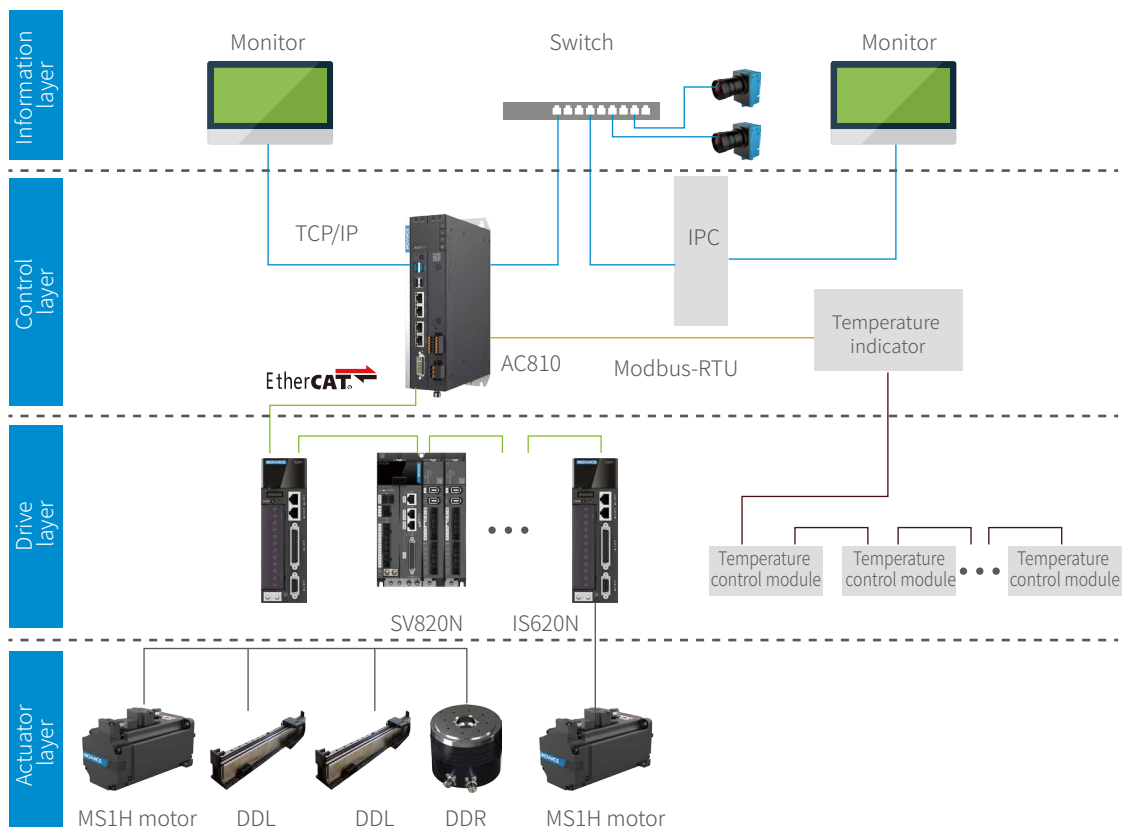
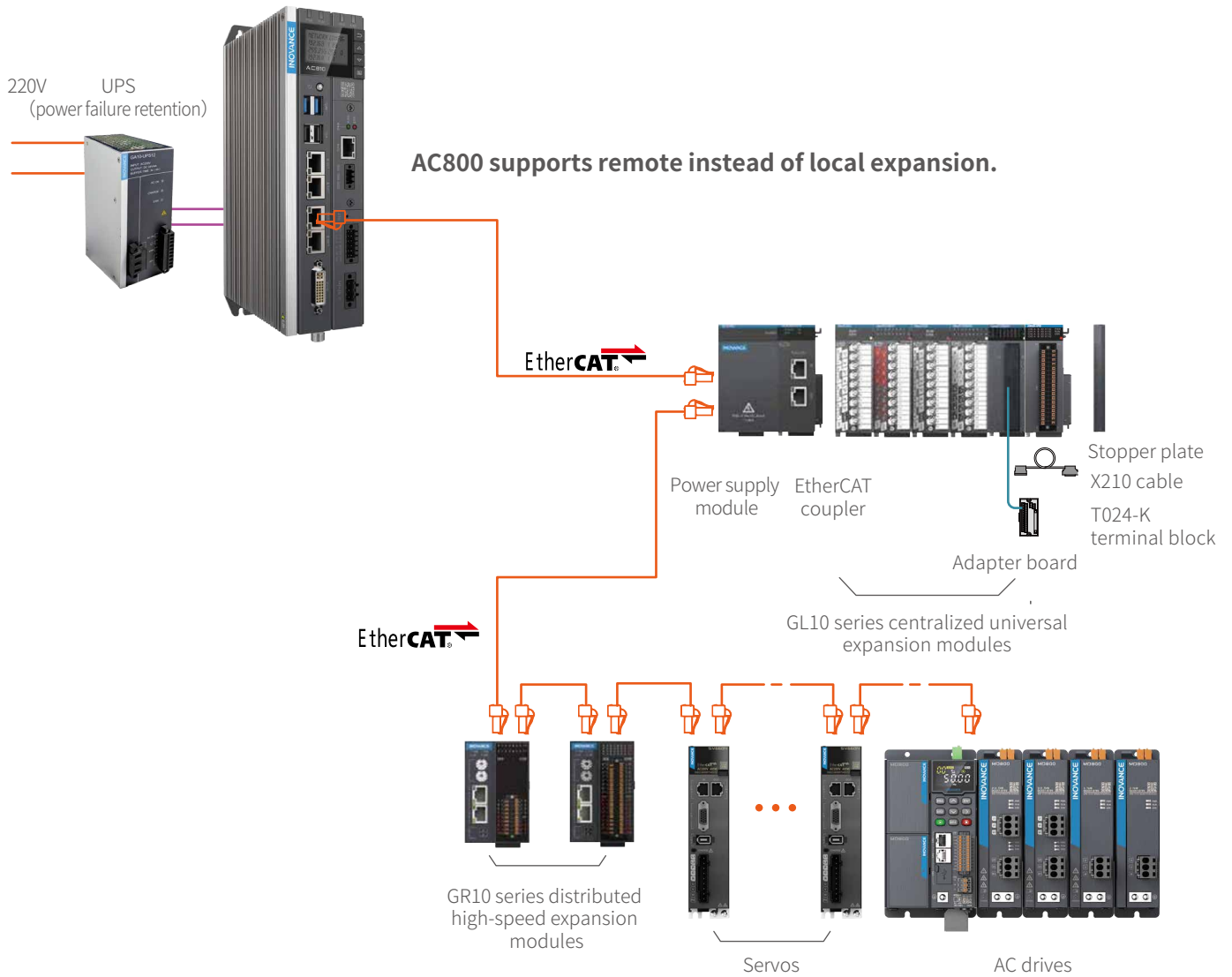## Construction of control system

AC810 + IS620N * 65, including 29 common servos, 24 DDLs and 12 DDRs.

Benefits

The traditional process requires 3 skilled workers. Inovance's bus soldering solution replaces these workers with a complete process system based on the EtherCAT bus solution and the AC810 high-performance bus controller. Improvement in productivity, efficiency, stability and ease-of-use.

Model Selection

220V UPS
（power failure retention）

AC800 supports remote instead of local expansion.

EtherCAT

Power supply module · EtherCAT coupler

Stopper plate
X210 cable
T024-K terminal block

Adapter board

GL10 series centralized universal expansion modules

EtherCAT

GR10 series distributed high-speed expansion modules

Servos

AC drives

Ordering Information

Series	Code	Model	Description	Certification
CPU: AC800 series booksize high-performance intelligent controller	01440038	AC810-0122-U0R0	Intelligent controller-AC810-0122-U0R0-Intel Core i5-4 network ports-128G-with PCIe expansion slot-256 axes	CE
	01440103	AC801-0221-U0R0	Intelligent controller-AC801-0221-U0R0-Intel Celeron-3 network ports-64G-no PCI expansion slot-48 axes	CE
	01440101	AC802-0222-U0R0	Intelligent controller-AC802-0222-U0R0-Intel Celeron-4 network ports-128G-with PCIe expansion slot-128 axes	CE
	01440143	AC812-0322-U0R0	Intelligent controller-AC812-0322-U0R0-Intel Core i7-4 network ports-128G-with PCIe expansion slot-256 axes	-
GA series expansion accessory: CAN card	01480011	GA10-CAN1	GA10-CAN1-PLC CAN expansion card-terminal block type (This card can be directly installed on AC802 and later models. For AC801, the card structure needs to be adjusted by R&D.)	
	01480016	GA10-CAN2	GA10-CAN2-PLC CAN expansion card-RJ45 (This card can be directly installed on AC802 and later models. For AC801, the card structure needs to be adjusted by R&D.)	
UPS	72030025	GA10-UPS12	GA10-UPS12 24 VAC/VDC 4 A 3s, for power failure retention of AC and AP series	
UPS	72030012	24VDC BUFFER 5AS	For power failure retention of AC and AP series	CE

Series	Code	Model	Description	Certification	
Remote ECTA or local COP expansion module: GL series centralized universal module	01440074	GL10-PS2	GL10-PS2-GL10 series PLC power supply module (used to power AM series PLCs, ECTA couplers, or COP couplers)	CE/UL	
	01440073	GL10-RTU-ECTA	GL10-RTU-ECTA-series PLC EtherCAT (auto scan) COMM module-coupler	CE/UL	
	01440083	GL10-RTU-COP	GL10-RTU-COP-GL10 series PLC CANopen COMM remote expansion module-coupler	CE/UL	
	01440066	GL10-1600END	GL10-1600END-GL10 series PLC 16DI module	CE/UL	
	01440076	GL10-3200END	GL10-3200END-GL10 series PLC 32DI module	CE/UL	
	01440180	GL10-3200END-F01	GL10-3200END-F01-GL10 series PLC 32DI 0.1 ms filter module	CE/UL	
	01440067	GL10-0016ETN	GL10-0016ETN-GL10 series PLC 16 digital transistor NPN output module	CE/UL	
	01440069	GL10-0016ETP	GL10-0016ETP-GL10 series PLC 16 digital transistor PNP output module	CE/UL	
	01440081	GL10-0016ER	GL10-0016ER-GL10 series PLC 16 digital RO module	CE/UL	
	01440082	GL10-0032ETN	GL10-0032ETN-GL10 series PLC 32DO module	CE/UL	
	01440080	GL10-4AD	GL10-4AD-GL10 series PLC 4AI module	CE/UL	
	01440071	GL10-4DA	GL10-4DA-GL10 series PLC 4AO module	CE/UL	
	01440075	GL10-4PT	GL10-4PT-GL10 series PLC 4-in RTD module	CE/UL	
	01440078	GL10-4TC	GL10-4TC-GL10 series PLC 4-in TC TEMP MEAS module	CE/UL	
	01440070	GL10-8TC	GL10-8TC-GL10 series PLC 8-in TC TEMP MEAS module	CE/UL	
AM600 local expansion module	01440023	AM600-3200END	AM600 series 32-in module (used with X210-5-0.5/2, T024-K)	UL	Used with adapter boards (if necessary on site)
	01440025	AM600-0032ETN	AM600 series 32-out module (used with X210-5-0.5/2, T024-K)	UL	
AM600 local expansion module accessories	15300119	X210-5-0.5	40-pin outgoing cable-0.5 m (used by AM600-0032ETN and AM600-3200END modules)	-	
	15300193	X210-5-2	40-pin outgoing cable-2.0 m (used by AM600-0032ETN and AM600-3200END modules)	-	
	15020452	T024-K	AM600 32-point module terminal block (used by AM600-0032ETN and AM600-3200END modules)	-	
	15050180	FCN-40	40-pin terminal, used when I/O is rarely used (used by AM600-0032ETN and AM600-3200END modules)	-	
Remote expansion module: GR series distributed high-speed module	01440077	GR10-080&ETNE	GR10-0808ETNE-GR10 series PLC 8-in 8-out EtherCAT slave module	CE/UL	24 V external power supply
	01440079	GR10-1616ETNE	GR10-1616ETNE-GR10 series PLC 16-in 16-out EtherCAT slave module	CE/UL	
	01440298	GR10-1616ETNE-T01	GR10-1616ETNE-GR10 series PLC 16-in 16-out EtherCAT slave module (0.1 ms input filter)	CE/UL	
	01440058	GR10-4ADE	GR10-4ADE-GR10 series medium-sized PLC 4AI EtherCAT slave module	CE/UL	
	01440060	GR10-4DAE	GR10-4DAE-GR10 series medium-sized PLC 4AO EtherCAT slave module	CE/UL	
	01440059	GR10-&TCE	GR10-8TCE-GR10 series medium-sized PLC EtherCAT slave module (8 TC inputs)	CE/UL	
	01440068	GR10-4PME	GR10-4PME-GR10 series PLC EtherCAT slave module (4 positioning outputs)	CE/UL	
	01440072	GR10-2HCE	GR10-2HCE-GR10 series PLC 2-channel ABZ high-speed counting EtherCAT slave module-2M counter	CE/UL	
	01440127	GR10-8PBE	GR10-8PBE-GR10 series universal module 8-channel probe capture 1-channel ABZ high-speed counting EtherCAT slave module	CE/UL	
	01440120	GR10-2PHE	GR10-2PHE-GR10 series PLC 2-channel high-speed DIFF pulse output EtherCAT slave remote expansion module	CE/UL	
	01440135	GR10-EC-6SW	GR10-EC-6SW-GR10 series 6-EtherCAT branch module	CE	
	01440177	GR10-1616ERE-BD	GR10 series PLC 16-in 16RO EtherCAT slave board		
	72030017	GR10-4TCS-PID	Control technology accessory-AI-70482D7-4 TC input TEMP controller-non-EtherCAT bus	-	

For details about other temperature control, weighing, and Ethernet to serial modules,
please contact Inovance technical support.

AP700 Series

Display and controller integrated intelligent controller

278.9mm

351.9 mm

66.5mm

EtherCAT

All-rounder in machine tool applications

- Visual programming interface.
- Intel x86 high-performance processor, integrated display and control.
- Min. bus period 500 μs; multi-axis motion control synchronizes 16 axes in 1 ms.
- 15" resistive touch screen.
- Visual programming with InoProShop.
- Fan-free design for a wide operating temperature range.

Modular technology platform	Controllable trajectory	Integrated automatic loading and unloading
- Built-in T7000-based CAM control	- Synchronization between PLC and HMI; support for G code visualization and programming	- Support for auxiliary axis control (electronic cam, electronic gear, PTP control)
- Built-in CNC, PLC, HMI functions		
- Support for multi-channel multi-station simultaneous interpolation	- Generates trajectory control programs directly from DXF and DWG files	- Integrated manipulator control model
- Support for I/O control with EtheCAT bus expansion	- Direct fine-tuning on the HMI improves trajectory accuracy for shape processing	

Features

HDMI+DP   EtherCAT   DIDO   Power input

4 USB   EtherNet   2 RS485   REMOTE
interfaces   interfaces
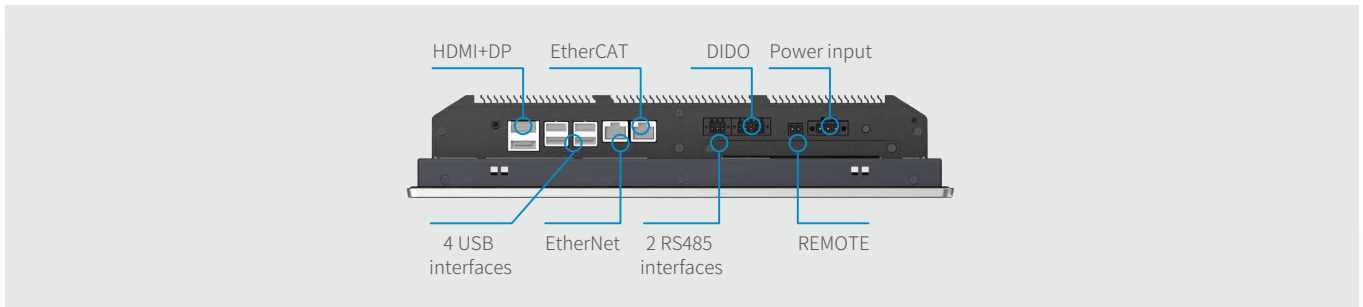
Product Specifications

Model	AP703
Processor	Intel x86 1.6 GHz dual-core processor
Memory	DDR4G/8G SSD64G
Bus	EtherCAT master×1
	EtherNet×1
	USBx4
OS	Linux/RT
Serial communication	RS485×2
HMI	IT7000
Max. number of axes	48
Monitor	15-inch TFT, resolution 1024×768, resistive
Dimensions (W * H * D)	351.9mm × 278.9mm × 66.5mm (13.85" × 10.98" × 2.62")
Hole size (W * H)	338mm × 265mm (13.30" × 10.43")

EP700 Series

Smart controller

The EP700 series intelligent controller is AP700's counterpart in the hydraulic industry.

■ EP700 retains the powerful real-time synchronization function of AP700, and rivals major international products in terms of control accuracy and interface operation experience.

■ The open platform effectively improves the reusability of standard programs and enables secondary development for users. The core process encryption and encapsulation and big data storage functions enhance equipment competitiveness.

AP700 Applications

Drilling, tapping and plane milling controller

Easy-to-use graphic-text analysis

This solution employs an Inovance AP700 controller, 6 Inovance IS620N servo drives, and the EtherCAT technology. This solution comes with CAM auxiliary software which enables G code generation with mouse clicks. Users need not to learn complicated CAM software, such as UG, PRO-E, and MasterCAM.

Beginner-friendly integrated controller
Real-time EtherCAT bus control
Open architecture allows for quick customization of the UI or control
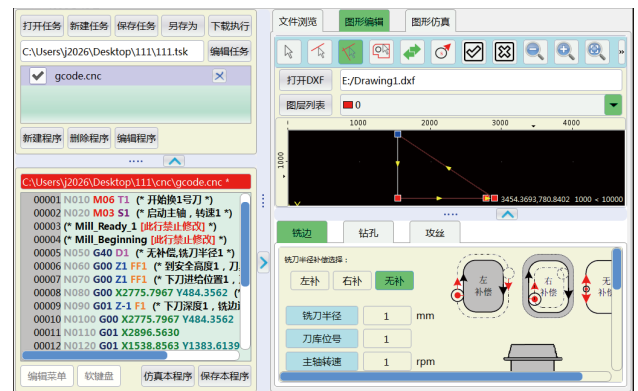
Five-axis polishing grinder

Intelligent model analysis significantly improves machining accuracy

Keywords: AP702, CNC file reading, editing, teaching, execution, RTCP and grinding wheel tool compensation, import DXF files, one-click generation of G codes, customer core technology encapsulation.

Processing accuracy: ±0.01 mm
Repeated positioning accuracy: 0.01 mm
Idle speed: 500 mm/s
**Operating speed: 300 mm/s**

Friction stir welding

Cost-effective controller enables customizable manufacturing process

Keywords: AP702, five-axis linkage, RTCP numerical control function, G code analysis, CNC interpolation, axis coordinate transformation control function block, IT7000 industry-specific controls, fast delivery

The user can import DXF graphics and specify the processing trajectory. G codes will be automatically generated
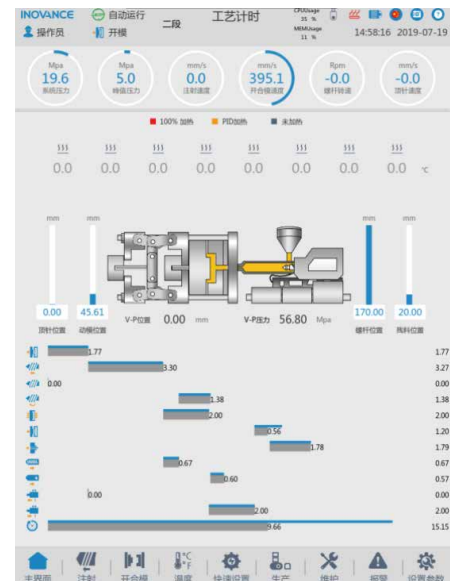**G-code graphic-text editing**
Graphical simulation and real-time monitoring of processing trajectories
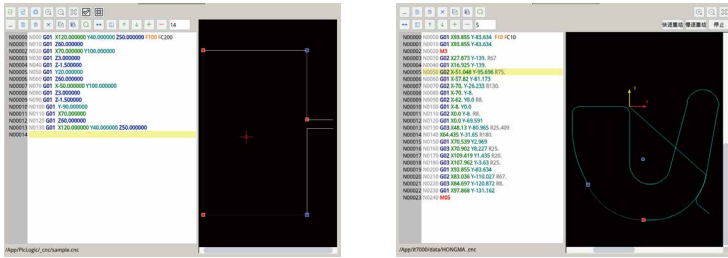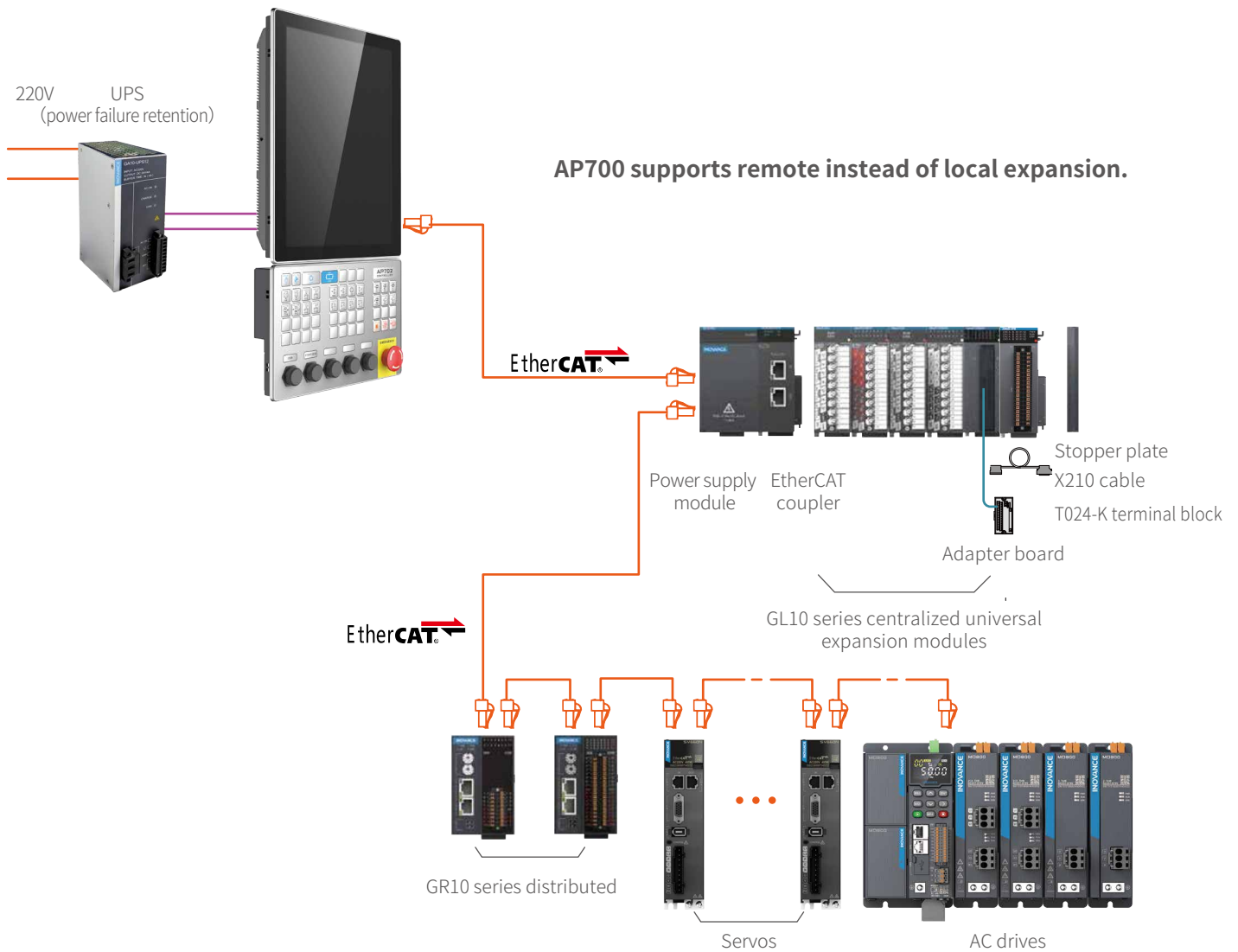

Hydraulic industry-all-electric injection molding machine system

Cell production and integrated equipment control ensures improved production efficiency

Elegant UI, powerful real-time synchronization, high-precision trajectory control, XYZ synchronous control, and integrated back-end robot control model for automatic loading and unloading. Loading + processing technology + unloading, palletizing and packaging, all in one controller.

Model Selection

220V   UPS
(power failure retention)

AP700 supports remote instead of local expansion.

EtherCAT

Power supply   EtherCAT
module   coupler

Stopper plate
X210 cable

T024-K terminal block

Adapter board

GL10 series centralized universal
expansion modules

EtherCAT

GR10 series distributed

Servos   AC drives

Ordering Information

Series	Code	Model	Description	Certification
CPU: AP700 series display and intelligent controller integration	01440171	AP703-0221-U0R0	Intelligent controller-AP703-0021-U0R0-15'' resistive-screen controller-AP700 series display and intelligent controller integration (general-purpose)	CE
	01440248	AP705-0221-U0R0	Intelligent controller-AP705-0021-U0R0-15'' resistive-screen controller-AP700 series display and intelligent controller integration (with graphics resolution control)	CE
Options of AC700 series controller	01480014	EP700-KEYB	Controller option-AP700-KEYB-AP700 series injection molding machine dedicated keypad	
GA series expansion accessory: CAN card	01480011	GA10-CAN1	GA10-CAN1-PLC CAN expansion card-terminal block type (This card can be directly installed on AC802 and later models. For AC801, the card structure needs to be adjusted by R&D.)	
	01480016	GA10-CAN2	GA10-CAN2-PLC CAN expansion card-RJ45 (This card can be directly installed on AC802 and later models. For AC801, the card structure needs to be adjusted by R&D.)	
UPS	72030025	GA10-UPS12	GA10-UPS12 24 VAC/VDC 4 A 3s, for power failure retention of AC and AP series	
UPS	72030012	24VDC BUFFER 5AS	For power failure retention of AC and AP series	CE

Series	Code	Model	Description	Certification	
Remote ECTA or local COP expansion module: GL series centralized universal module	01440074	GL10-PS2	GL10-PS2-GL10 series PLC power supply module (used to power AM series PLCs, ECTA couplers, or COP couplers)	CE/UL	
	01440073	GL10-RTU-ECTA	GL10-RTU-ECTA-series PLC EtherCAT (auto scan) COMM module-coupler	CE/UL	
	01440083	GL10-RTU-COP	GL10-RTU-COP-GL10 series PLC CANopen COMM remote expansion module-coupler	CE/UL	
	01440066	GL10-1600END	GL10-1600END-GL10 series PLC 16DI module	CE/UL	
	01440076	GL10-3200END	GL10-3200END-GL10 series PLC 32DI module	CE/UL	
	01440180	GL10-3200END-F01	GL10-3200END-F01-GL10 series PLC 32DI 0.1 ms filter module	CE/UL	
	01440067	GL10-0016ETN	GL10-0016ETN-GL10 series PLC 16 digital transistor NPN output module	CE/UL	
	01440069	GL10-0016ETP	GL10-0016ETP-GL10 series PLC 16 digital transistor PNP output module	CE/UL	
	01440081	GL10-0016ER	GL10-0016ER-GL10 series PLC 16 digital RO module	CE/UL	
	01440082	GL10-0032ETN	GL10-0032ETN-GL10 series PLC 32DO module	CE/UL	
	01440080	GL10-4AD	GL10-4AD-GL10 series PLC 4AI module	CE/UL	
	01440071	GL10-4DA	GL10-4DA-GL10 series PLC 4AO module	CE/UL	
	01440075	GL10-4PT	GL10-4PT-GL10 series PLC 4-in RTD module	CE/UL	
	01440078	GL10-4TC	GL10-4TC-GL10 series PLC 4-in TC TEMP MEAS module	CE/UL	
	01440070	GL10-8TC	GL10-8TC-GL10 series PLC 8-in TC TEMP MEAS module	CE/UL	
AM600 local expansion module	01440023	AM600-3200END	AM600 series 32-in module (used with X210-5-0.5/2, T024-K)	UL	Used with adapter boards (if necessary on site)
	01440025	AM600-0032ETN	AM600 series 32-out module (used with X210-5-0.5/2, T024-K)	UL	
AM600 local expansion module accessories	15300119	X210-5-0.5	40-pin outgoing cable-0.5 m (used by AM600-0032ETN and AM600-3200END modules)	-	
	15300193	X210-5-2	40-pin outgoing cable-2.0 m (used by AM600-0032ETN and AM600-3200END modules)	-	
	15020452	T024-K	AM600 32-point module terminal block (used by AM600-0032ETN and AM600-3200END modules)	-	
	15050180	FCN-40	40-pin terminal, used when I/O is rarely used (used by AM600-0032ETN and AM600-3200END modules)	-	
Remote expansion module: GR series distributed high-speed module	01440077	GR10-0808ETNE	GR10-0808ETNE-GR10 series PLC 8-in 8-out EtherCAT slave module	CE/UL	24 V external power supply
	01440079	GR10-1616ETNE	GR10-1616ETNE-GR10 series PLC 16-in 16-out EtherCAT slave module	CE/UL	
	01440298	GR10-1616ETNE-T01	GR10-1616ETNE-GR10 series PLC 16-in 16-out EtherCAT slave module (0.1 ms input filter)	CE/UL	
	01440058	GR10-4ADE	GR10-4ADE-GR10 series medium-sized PLC 4AI EtherCAT slave module	CE/UL	
	01440060	GR10-4DAE	GR10-4DAE-GR10 series medium-sized PLC 4AO EtherCAT slave module	CE/UL	
	01440059	GR10-8TCE	GR10-8TCE-GR10 series medium-sized PLC EtherCAT slave module (8 TC inputs)	CE/UL	
	01440068	GR10-4PME	GR10-4PME-GR10 series PLC EtherCAT slave module (4 positioning outputs)	CE/UL	
	01440072	GR10-2HCE	GR10-2HCE-GR10 series PLC 2-channel ABZ high-speed counting EtherCAT slave module-2M counter	CE/UL	
	01440127	GR10-8PBE	GR10-8PBE-GR10 series universal module 8-channel probe capture 1-channel ABZ high-speed counting EtherCAT slave module	CE/UL	
	01440120	GR10-2PHE	GR10-2PHE-GR10 series PLC 2-channel high-speed DIFF pulse output EtherCAT slave remote expansion module	CE/UL	
	01440135	GR10-EC-6SW	GR10-EC-6SW-GR10 series 6-EtherCAT branch module	CE	
	01440177	GR10-1616ERE-BD	GR10 series PLC 16-in 16RO EtherCAT slave board		
	72030017	GR10-4TCS-PID	Control technology accessory-AI-70482D7-4 TC input TEMP controller-non-EtherCAT bus	-	

For details about other temperature control, weighing, and Ethernet to serial modules,
please contact Inovance technical support.

AM400/AM600 Series

General-purpose medium-sized PLC

- 10 M program capacity and 20 M data capacity.
- EtherCAT axis control: 20 axes for AM600, 16 axes for AM403, 8 axes for AM402, and 4 axes for AM401, and 2 axes for 1 ms synchronization.
- Support for PLCopen motion control instructions (electronic cam, electronic gear, interpolation), and coordinate transformation instructions.
- Ethernet or USB-based monitoring and commissioning, compliant with IEC61131-3.
- The main unit comes with 16 high-speed inputs and 4 pulse outputs.
- Various bus networks: support for EtherCAT, CANopen, CANlink, EtherNet: ModbusTCP master-slave protocol, FreeTCP, 2 RS485: ModbusRTU master-slave protocol.

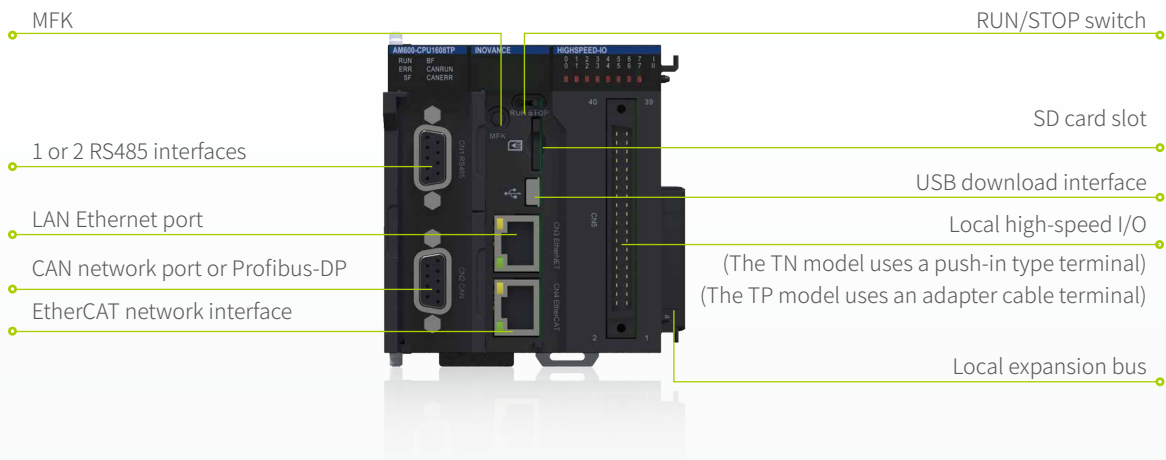| One-stop solution	Powerful motion control	A variety of options
- EtherCAT-based bus motion control. - Provides serial port and CAN interface; supports expansion with both CANopen and EtherCAT; one-stop service thanks to distributed I/Os. - The main unit supports up to 16 modules locally.	- PLCopen-based motion control platform - Combination of virtual and real axes allows for a distance of up to 100 m between two servo slaves. - Support for CNC/ROBOT function based on G instructions.	- 16-bit analog input and output, high precision temperature control module, DI/DO module (NPN, PNP transistor output, relay output), distributed IO communication module.

Features

MFK

RUN/STOP switch

1 or 2 RS485 interfaces

LAN Ethernet port

CAN network port or Profibus-DP

EtherCAT network interface

SD card slot

USB download interface

Local high-speed I/O
(The TN model uses a push-in type terminal)
(The TP model uses an adapter cable terminal)

Local expansion bus

Product Specifications

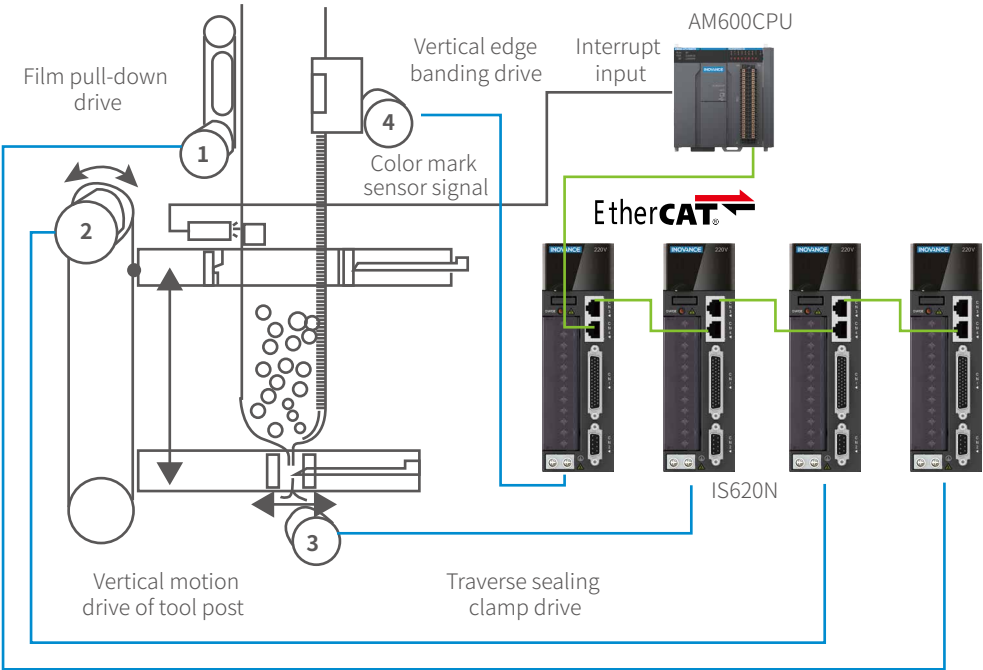| Model	I/O Hardware Description	EtherCAT Axes	4PME Modules	EtherCAT Slaves	Communication Interfaces	CAN Interfaces	Local I/O Expansion Modules	Program and Data Capacity	Differences
AM600-CPU1608TN	16-in 8-out high-speed I/O, NPN output Note: The product comes with plug-in push-in terminals, and no external terminal block is required.	Max. 32 (recommended: 20)	Apart from the support for EtherCAT axes, max. 6 GR10-4PME or GR10-2PHE modules	Max.125	1 EtherNET interface 2 RS485 interfaces	1 CAN interface (linking to max. 63 CAN slaves; fewer than 16 slaves recommended)	Max. 16	10 M program capacity, 20 M data capacity	1. TP: requires configuration of adapter cables and adapter boards for high-speed I/O; TN: comes with a crimped terminal 2. TP: 6 DIFF inputs; TN: 4 DIFF inputs
AM600-CPU1608TP	16-input 8-output high-speed I/O, PNP output Note: If you need local I/O, you need to purchase a terminal block.	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above	
AM401-CPU1608TN	16-in 8-out high-speed I/O, NPN output Note: The product comes with plug-in push-in terminals, and no external terminal block is required.	Max. 4	Apart from the support for EtherCAT axes, max. 4 GR10-4PME or GR10-2PHE modules	Max. 125	1 EtherNET interface 1 RS485 interface	1 CAN interface (linking to max. 8 CAN slaves)	Max. 8	10 M program capacity, 20 M data capacity	1. TP: adapter cables and adapter boards required for high-speed I/O; TN: comes with a crimped terminal 2. TP: 6 DIFF inputs; TN: 4 DIFF inputs
AM401-CPU1608TP	16-input 8-output high-speed I/O, PNP output Note: If you need local I/O, you need to purchase a terminal block.	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above	
AM402-CPU1608TN	16-in 8-out high-speed I/O, NPN output Note: The product comes with plug-in push-in terminals, and no external terminal block is required.	Max. 8	Same as above	Same as above	Same as above	Same as above	Same as above	10 M program capacity, 20 M data capacity	1. TP: adapter cables and adapter boards required for high-speed I/O; TN: comes with a crimped terminal 2. TP: 6 DIFF inputs; TN: 4 DIFF inputs
AM402-CPU1608TP	16-input 8-output high-speed I/O, PNP output Note: If you need local I/O, you need to purchase a terminal block.	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above	
AM403-CPU1608TN	16-in 8-out high-speed I/O, NPN output Note: The product comes with plug-in push-in terminals, and no external terminal block is required.	Max. 16	Apart from the support for EtherCAT axes, max. 4 GR10-4PME or GR10-2PHE modules	Same as above	1 EtherNET interface 2 RS485 interfaces	1 CAN interface (linking to max. 63 CAN slaves; fewer than 16 slaves recommended)	Max. 16	10 M program capacity, 20 M data capacity	1. TP: adapter cables and adapter boards required for high-speed I/O; TN: comes with a crimped terminal 2. TP: 6 DIFF inputs; TN: 4 DIFF inputs
AM403-CPU1608TP	16-input 8-output high-speed I/O, PNP output Note: If you need local I/O, you need to purchase a terminal block.	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above	

AM400/AM600 Applications

High speed packer

Full electronic cam solution improves efficiency
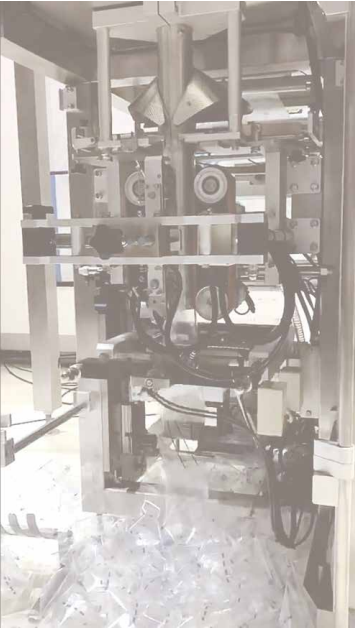
Keywords: AM600, synchronous control of pull-down, vertical sealing, horizontal sealing, cutting with 5-axis full electronic cam, high-speed and low-noise
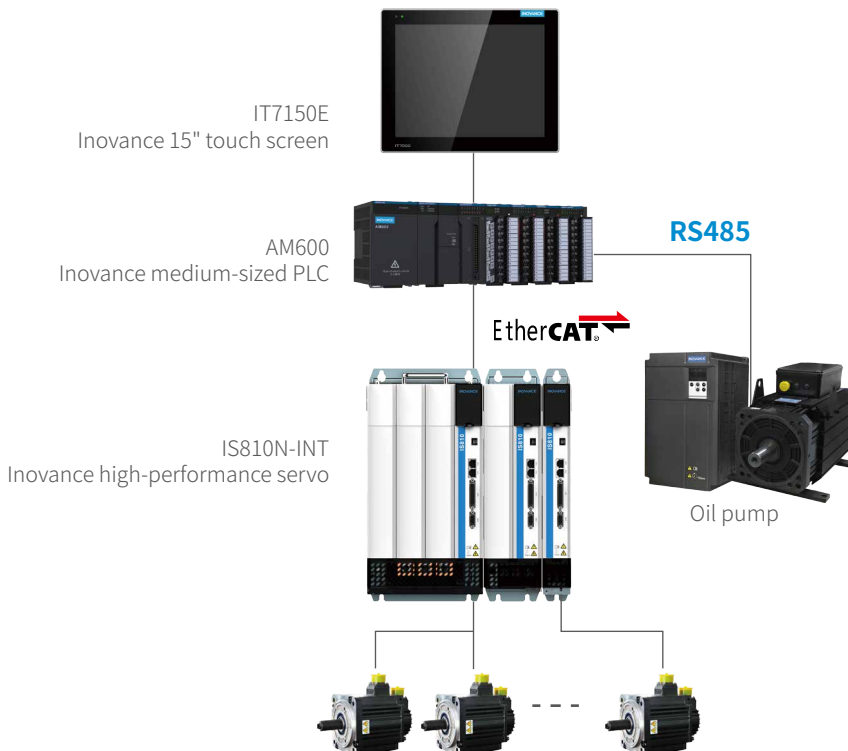
120 packs/min; follow accuracy ±1 mm

AM600CPU

Vertical edge banding drive

Interrupt input

Film pull-down drive

1

4

Color mark sensor signal

EtherCAT

2

IS620N

Vertical motion drive of tool post

3
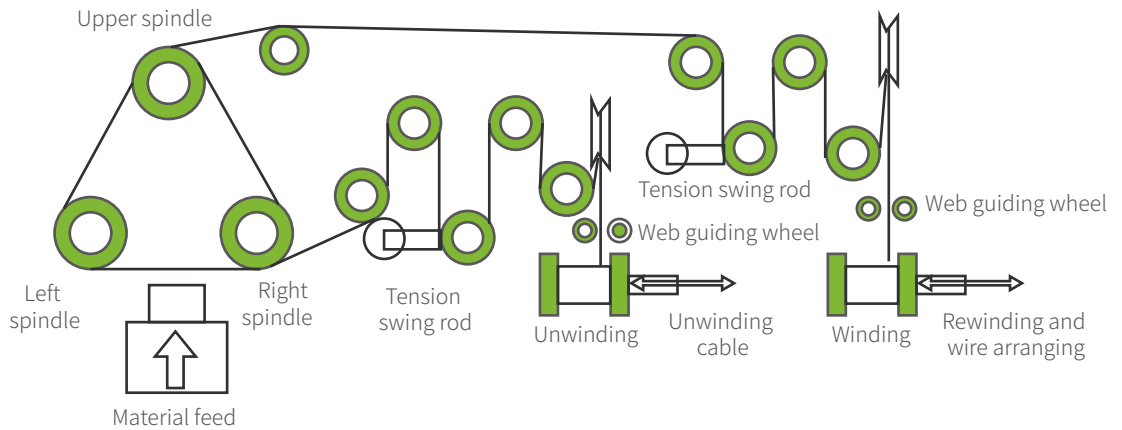
Traverse sealing clamp drive

Multi-wire saw

Industry standard core tension control and wire arranging algorithm
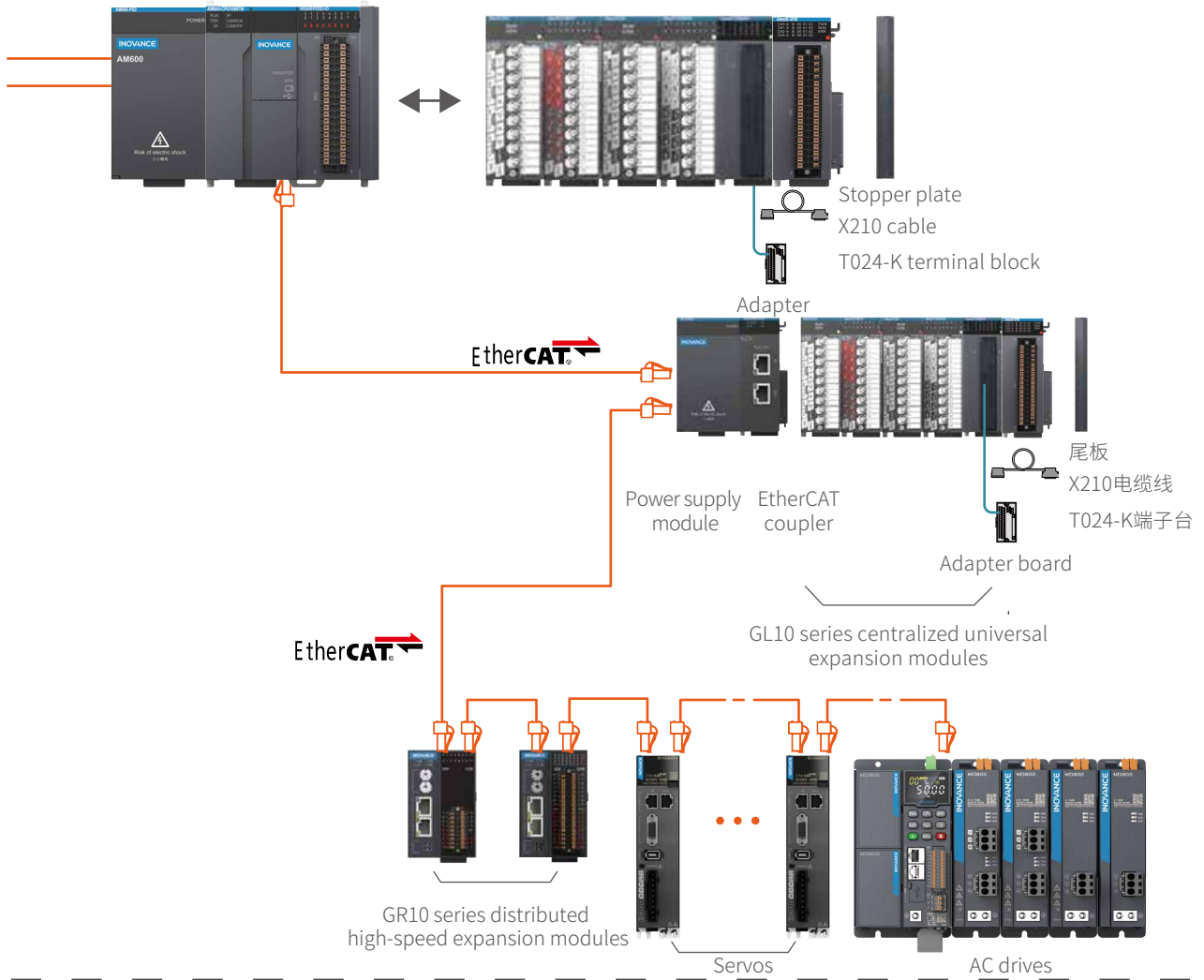
Keywords: AM600, 12-axis synchronous control, multi-main axis load distribution and two-axis cam cable arranging process block, linear speed increased by 50%, tension fluctuation ±0.5 N, best in the industry

Cutting line speed 1800 m/min
Line tension fluctuation: ±0.5 N
Swing lever swing angle: ±1°
Acc./dec. time: 3s

Upper spindle

Left spindle

Right spindle

Tension swing rod

Tension swing rod

Web guiding wheel

Web guiding wheel

Unwinding

Unwinding cable

Winding

Rewinding and wire arranging

Material feed

IT7150E
Inovance 15" touch screen

AM600
Inovance medium-sized PLC

RS485

EtherCAT

IS810N-INT
Inovance high-performance servo

Oil pump

Model Selection

Max. 16 local expansion modules

Stopper plate
X210 cable
T024-K terminal block

Adapter

EtherCAT

Power supply module   EtherCAT coupler

尾板
X210电缆线
T024-K端子台

Adapter board

GL10 series centralized universal expansion modules

EtherCAT

GR10 series distributed high-speed expansion modules

Servos

AC drives

AM600-CPU1608TP

Terminal block

Use SIRON T024-K to connect wires

AM600-CPU1608TN

AM403-CPU1608TP

Terminal block

Use SIRON T024-K to connect wires

AM403-CPU1608TN

AM402-CPU1608TP

Terminal block

Use SIRON T024-K to connect wires

AM402-CPU1608TN

AM401-CPU1608TP

Terminal block

Use SIRON T024-K to connect wires

AM401-CPU1608TN

Ordering Information

Series	Code	Model	Description	Certification
CPU: AM600 series general-purpose medium-sized PLC	01440014	AM600-CPU1608TP	Medium-sized PLC-AM600-CPU1608TP-AM600 series medium-sized PLC with EtherCAT CPU module (PNP output), 20 axes recommended	CE/UL
	01440064	AM600-CPU1608TN	Medium-sized PLC-AM600-CPU1608TN-AM600 series medium-sized PLC with EtherCAT CPU module (NPN output), 20 axes recommended	CE/UL
CPU: AM400 series economical medium-sized PLC	01440028	AM401-CPU1608TP	Medium-sized PLC-AM401-CPU1608TP-AM400 series medium-sized PLC with 4-axis EtherCAT CPU module	CE/UL
	01440032	AM401-CPU1608TN	Medium-sized PLC-AM401-CPU1608TN-AM400 series medium-sized PLC with 4-axis EtherCAT CPU module (NPN output)	CE/UL
	01440029	AM402-CPU1608TP	Medium-sized PLC-AM402-CPU1608TP-AM400 series medium-sized PLC with 8-axis EtherCAT CPU module	CE/UL
	01440031	AM402-CPU1608TN	Medium-sized PLC-AM402-CPU1608TN-AM400 series medium-sized PLC with 8-axis EtherCAT CPU module (NPN output)	CE/UL
	01440126	AM403-CPU1608TN	Medium-sized PLC-AM403-CPU1608TN-AM400 series medium-sized PLC with 16-axis EtherCAT CPU module (NPN output)	CE/UL
	01440284	AM403-CPU1608TP	Medium-sized PLC-AM403-CPU1608TP-AM400 series medium-sized PLC with 16-axis EtherCAT CPU module (PNP output)	CE
Power supply module	01440074	GL10-PS2	GL10-PS2-GL10 series PLC power supply module (used to power AM series PLCs, ECTA couplers, or COP couplers)	CE

Series	Code	Model	Description	Certification	
CPU, ECTA, or local COP expansion module: GL series centralized universa module	01440074	GL10-PS2	GL10-PS2-GL10 series PLC power supply module (used to power AM series PLCs, ECTA couplers, or COP couplers)	CE/UL	
	01440073	GL10-RTU-ECTA	GL10-RTU-ECTA-series PLC EtherCAT (auto scan) COMM module-coupler	CE/UL	
	01440083	GL10-RTU-COP	GL10-RTU-COP-GL10 series PLC CANopen COMM remote expansion module-coupler	CE/UL	
	01440066	GL10-1600END	GL10-1600END-GL10 series PLC 16DI module	CE/UL	
	01440076	GL10-3200END	GL10-3200END-GL10 series PLC 32DI module	CE/UL	
	01440180	GL10-3200END-F01	GL10-3200END-F01-GL10 series PLC 32DI 0.1 ms filter module	CE/UL	
	01440067	GL10-0016ETN	GL10-0016ETN-GL10 series PLC 16 digital transistor NPN output module	CE/UL	
	01440069	GL10-0016ETP	GL10-0016ETP-GL10 series PLC 16 digital transistor PNP output module	CE/UL	
	01440081	GL10-0016ER	GL10-0016ER-GL10 series PLC 16 digital RO module	CE/UL	
	01440082	GL10-0032ETN	GL10-0032ETN-GL10 series PLC 32DO module	CE/UL	
	01440080	GL10-4AD	GL10-4AD-GL10 series PLC 4AI module	CE/UL	
	01440071	GL10-4DA	GL10-4DA-GL10 series PLC 4AO module	CE/UL	
	01440075	GL10-4PT	GL10-4PT-GL10 series PLC 4-in RTD module	CE/UL	
	01440078	GL10-4TC	GL10-4TC-GL10 series PLC 4-in TC TEMP MEAS module	CE/UL	
	01440070	GL10-8TC	GL10-8TC-GL10 series PLC 8-in TC TEMP MEAS module	CE/UL	
AM600 local expansion module	01440023	AM600-3200END	AM600 series 32-in module (used with X210-5-0.5/2, T024-K): terminal block wiring	UL	
	01440025	AM600-0032ETN	AM600 series 32-out module (used with X210-5-0.5/2, T024-K): terminal block wiring	UL	
AM600 local expansion module accessories	15300119	X210-5-0.5	40-pin outgoing cable-0.5 m (used by AM600-0032ETN and AM600-3200END modules)	-	Used with adapter boards (if necessary on site)
	15300193	X210-5-2	40-pin outgoing cable-2.0 m (used by AM600-0032ETN and AM600-3200END modules)	-	
	15020452	T024-K	AM600 32-point module terminal block (used by AM600-0032ETN and AM600-3200END modules)	-	
	15050180	FCN-40	40-pin terminal, used when I/O is rarely used (used by AM600-0032ETN and AM600-3200END modules)	-	
Remote expansion module: GR series distributed high-speed module	01440077	GR10-0808ETNE	GR10-0808ETNE-GR10 series PLC 8-in 8-out EtherCAT slave module	CE/UL	24 V external power supply
	01440079	GR10-1616ETNE	GR10-1616ETNE-GR10 series PLC 16-in 16-out EtherCAT slave module	CE/UL	
	01440298	GR10-1616ETNE-T01	GR10-1616ETNE-GR10 series PLC 16-in 16-out EtherCAT slave module (0.1 ms input filter)	CE/UL	
	01440058	GR10-4ADE	GR10-4ADE-GR10 series medium-sized PLC 4AI EtherCAT slave module	CE/UL	
	01440060	GR10-4DAE	GR10-4DAE-GR10 series medium-sized PLC 4AO EtherCAT slave module	CE/UL	
	01440059	GR10-8TCE	GR10-8TCE-GR10 series medium-sized PLC EtherCAT slave module (8 TC inputs)	CE/UL	
	01440068	GR10-4PME	GR10-4PME-GR10 series PLC EtherCAT slave module (4 positioning outputs)	CE/UL	
	01440072	GR10-2HCE	GR10-2HCE-GR10 series PLC 2-channel ABZ high-speed counting EtherCAT slave module-2M counter	CE/UL	
	01440127	GR10-8PBE	GR10-8PBE-GR10 series universal module 8-channel probe capture 1-channel ABZ high-speed counting EtherCAT slave module	CE/UL	
	01440120	GR10-2PHE	GR10-2PHE-GR10 series PLC 2-channel high-speed DIFF pulse output EtherCAT slave remote expansion module	CE/UL	
	01440135	GR10-EC-6SW	GR10-EC-6SW-GR10 series 6-EtherCAT branch module	CE	
	01440177	GR10-1616ERE-BD	GR10 series PLC 16-in 16RO EtherCAT slave board		
	72030017	GR10-4TCS-PID	Control technology accessory-AI-70482D7-4 TC input TEMP controller	-	

For details about other temperature control, weighing, and Ethernet to serial modules, please contact Inovance technical support.

H5U Series

EtherCAT bus high-performance small PLC

90mm

90mm

95mm

One step ahead

- EtherCAT-based wiring on the entire network saves wires and troubleshooting time. Only one controller will be enough for a complex assembly.
- Direct commissioning instead of commissioning in the servo background. Servo motion positioning can be free from programming.
- Programming supports function block and library encapsulation, facilitating encapsulation and reuse of technology.
- Customization of variables in Chinese and English, as well as direct communication with Chinese variables of IT7000 touch screens, help accelerate the programming.

Simplified Motion Control	Fast Programming	Fast Delivery

Simplified Motion Control

- 32-axis EtherCAT motion control, 72 EtherCAT slaves.
- PLCopen-compliant axis control.
- Local pulses and EtherCAT axes share the same motion control instructions.
- Supports cam and interpolation.

Fast Programming

- Supports function block and library encapsulation for encapsulation and reuse of technology.
- The wizard-based configuration enables different communication functions.
- Supports direct communication with Chinese variables of IT7000 touch screens.

Fast Delivery

- EtherCAT-based wiring on the entire network saves wires and troubleshooting time.
- Supports Ethernet, CAN, 485, and EtherCAT multi-level network communication. Only one controller will be enough for a complex assembly.
- Easier to use Inovance servo AC drives by implementation of plug and play.

Features

Connectivity to PC, HMI, and other controller masters

Connectivity with AC drives /smart instruments/ other controller slaves

RS485, free communication protocol, supporting Modbus-RTU master/ slave protocol instruction/configuration table-driven programming

Program download monitoring, Modbus-TCP and Socket instructions

Connection between PC, HMI, PLC and other Ethernet information equipment through routers

High-speed pulse input: 200 kHz × 4ch

Able to connect to four 200 kHz high-speed inputs-4 interrupt signals, or max. 2 AB phase encoders

485   **LAN**   **DI**

Built-in RTC perpetual calendar

Supports up to 32 servo axes or 72 EtherCAT slaves if EtherCAT is used

EtherCAT

IS620N

Able to control servo drive/AC drive/remote expansion module/ other controllers if the CANlink 3.0 master protocol is used

CAN

DI/DO expansion   **AI/AO expansion**

Supports up to 16 local expansion modules

H5U main module   **Local expansion module**

High-speed pulse output: 200 kHz × 4ch

Able to control 4 servo or stepping drives

Built-in CANopen/CANlink3.0 master/ slave protocols

MD500   **IS620P-C**   **Other PLC slaves**

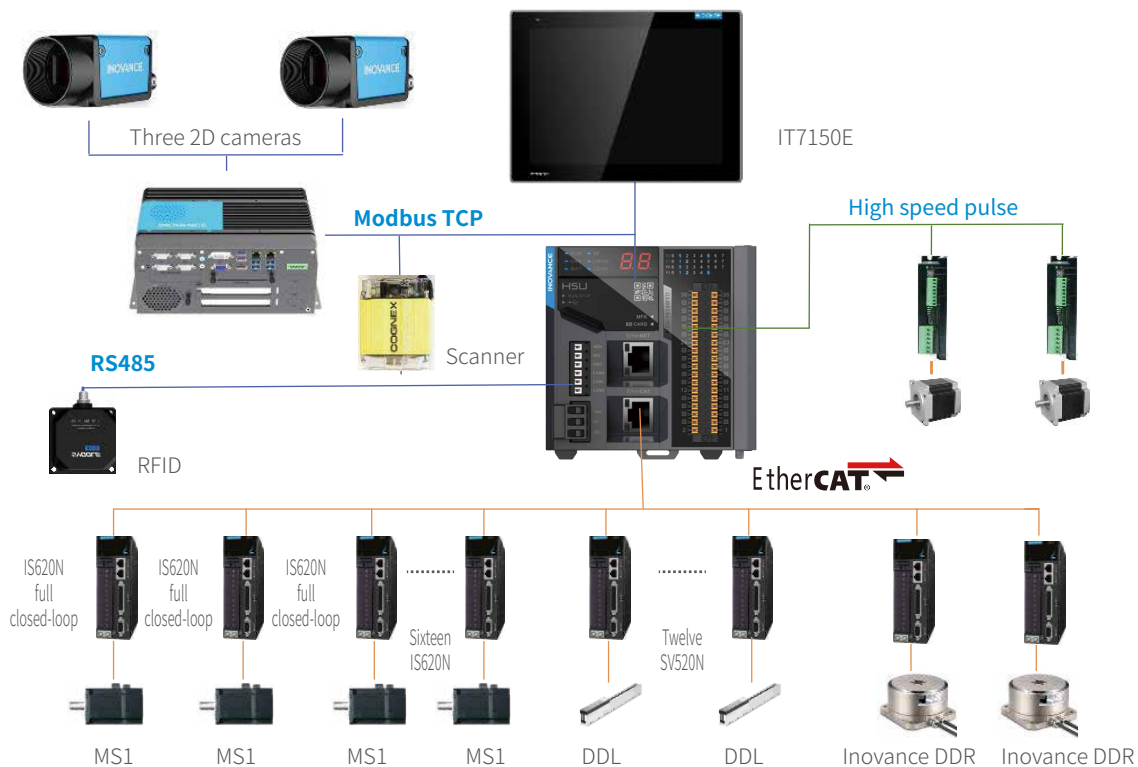| Model	H5U series high-performance EtherCAT bus small PLC (mainly for EtherCAT axis motion control)
Axis Capacity	32 axes (including EtherCAT axes and local pulse axes in use of the same instructions) (8-axis and 16-axis versions are also available.)
Communication Interfaces	EtherCAT x 1: max. 32 axes and 72 EtherCAT slaves (including servo axes)
	EtherNET x 1: MODBUS-TCP, TCP/IP, UDP
	CAN x 1: supporting CANlink and CANopen configuration (supporting CANopen instead of CANlink axis motion control)
	RS485 x 1
Program Capacity	200 K-step user programs
Data Capacity	2 MB user-defined variables, of which 256 KB supporting power failure retention
	Approx. 150 KB soft elements, of which No. 1000 and above supporting power failure retention
Programming Languages	Basic instructions: 20 ns; 20 K-step logic instructions: 2 ms
Basic Instruction Rate	LD and SFC, supporting FB/FC (ladder diagram function block)
High-Speed I/O	Four 200k high-speed inputs (2 encoder counting)
	4-axis 200k high-speed output (4-axis pulse output)
General I/O	16 inputs and 14 outputs (including high-speed I/Os)
Module Expansion	16 modules; remote modules can be connected as EtherCAT slaves.
Power Input	24 VDC
Other Interfaces	miniUSB, SD card
Dimensions	83 x 95 x 90 mm (L x W x H)
Additional Info	Supporting linear and circular interpolation, cam, and offline simulation (cam and interpolation can be used together for pulse axes and EtherCAT axes)

H5U Applications

Visual alignment binding equipment

Improved programming efficiency with function blocks, structures and user-defined variables

Inovance provides a multi-vision assembly equipment solution where the H5U high-performance small PLC is used as the main controller. The H5U high-performance small PLC can connect to 30 axes through the EtherCAT bus, including 12 linear motors and 2 DDRs, and connects to 2 stepper motors through local high-speed pulse. It Is programmed by the function blocks encapsulated by the EtherCAT axis control instruction. It supports information exchange between three 2D cameras and one code scanner through the Socket instruction. It also support RFID communication through the RS485 communication configuration.

H5U has the same capability of a medium-sized PLC. It allows for eightfold efficiency increase compared to the conventional semi-automatic + manual mode. It also enables 60% efficiency increase in programming by providing structures and user-defined variables.

Three 2D cameras

IT7150E

Modbus TCP

High speed pulse

RS485

Scanner

RFID

EtherCAT

IS620N full closed-loop	IS620N full closed-loop	IS620N full closed-loop	Sixteen IS620N		Twelve SV520N			
MS1	MS1	MS1	MS1	DDL	DDL	Inovance DDR	Inovance DDR

Electronic non-standard labeling machine

EtherCAT multi-axis PTP control enables rapid delivery

An Inovance H5U controls 22 IS620N servo drives through the EtherCAT bus, and the programming is implemented through Inovance EtherCAT axis control encapsulation instructions. 5-camera visual alignment and CIM system data exchange enabled by AutoShop communication settings. Probe instructions allows for high-speed position latching of the encoder connected to H5U. Function block reuse and subroutine call significantly increase programming efficiency.

Production efficiency: 2.5s/pcs, 1440pcs/h; mounting height 0.2 $\pm$ 0.15 mm; mounting width: 0.23 $\pm$ 0.15 mm; CPK: min. 1.33, without deformation and scratches.

IT7070E

EtherNet/IP

Modbus TCP

EtherCAT

Local pulse

stepper motor

stepper motor

5 cameras

Motor

Motor

22 servo drives

4 stepper drives
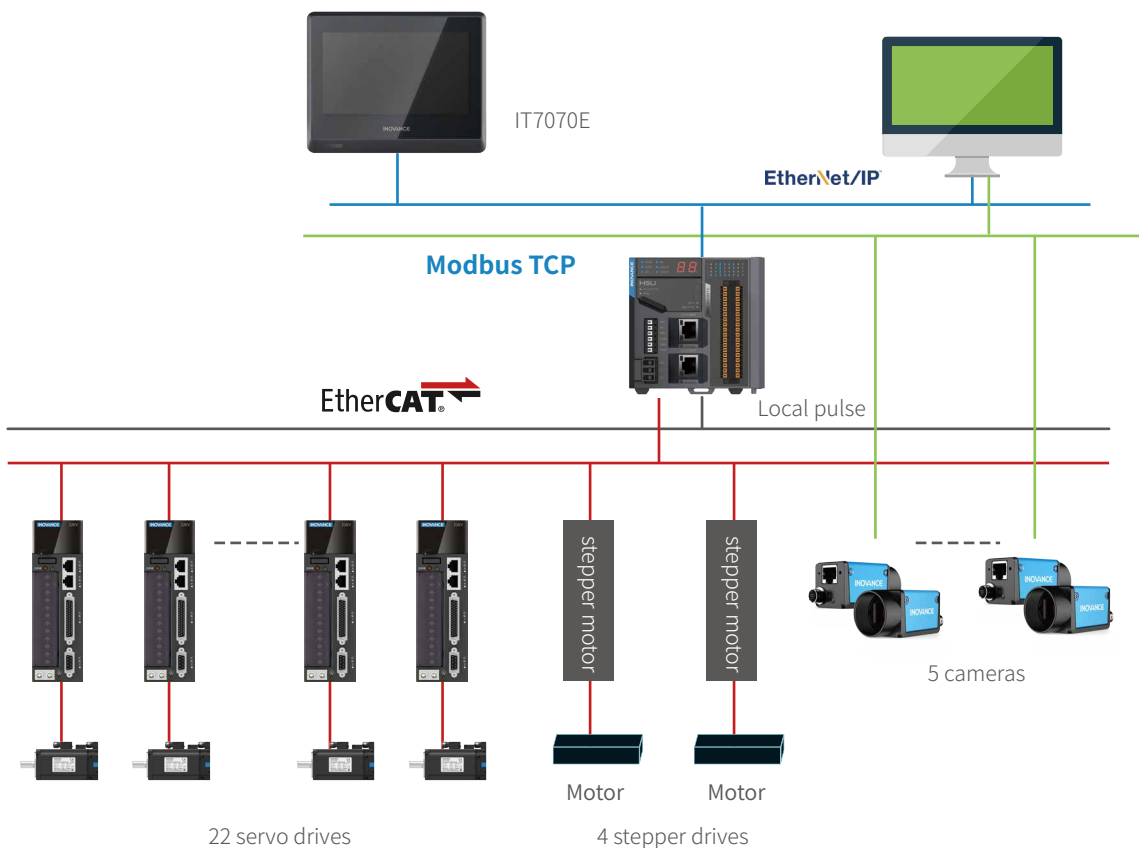
H5U Applications

Tri-Servo Flow Wrap Machine

Cam gets manufacturing equipment to move faster

This solution uses Inovance H5U series PLCs. Electronic cam controls the cutting tool axes for rotary cutting. Probes collect color marks for compensation, ensuring marking accuracy and bag length accuracy. The solution adopts standard encapsulation by encapsulating core processes into libraries for reuse. For standard tri-servo flow wrap machines, customers are free from additional programming by using the plug-and-play controller.
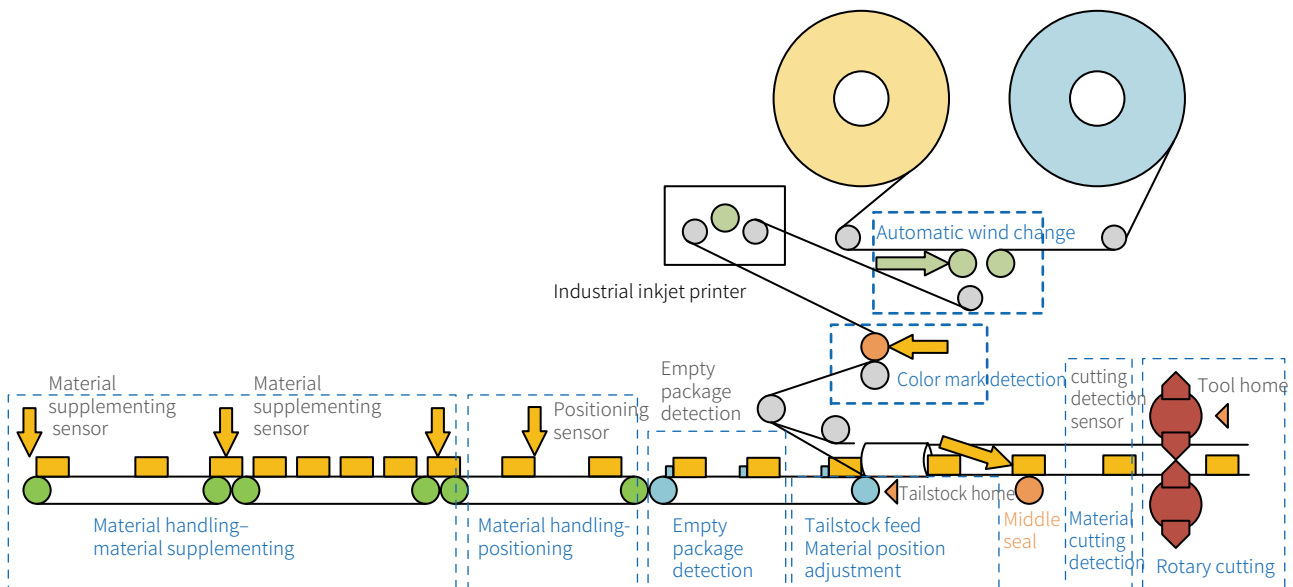
H5U Solution Advantages

■ Pulse+bus dual support for cost-effective local pulse control and advanced EtherCAT bus control. Applications including the material handling line can be extended through the bus. Only one controller will be enough for a distributed electric cabinet.

■ Supports electric cam, electric gear, phase shift, position overlay, and probe sampling for better motion control.

■ Supports virtual axes, encoder axes, bus axes, and pulse axes. Bus axes and pulse axes use the same set of axis control instructions.

■ Supports for function block and process library encapsulation. Key processes including color mark and flying knife can be encapsulated into libraries and reused for subsequent development.

■ Supports program offline simulation and axis online commissioning to reduce field commissioning workload.

Tri-Servo Flow Wrap Machine Specifications

Marking accuracy < ±1 mm

Production speed: dual-tool 110 bag length > 300 bags per second

Other functions: empty package detection, material cutting detection, material cutting reversion, automatic film connecting, etc.

IT7070T

Modbus

High-speed input Color mark sensor signal

Empty package detection sensor

Material cutting detection sensor

CANlink

H5U-1614MTD

EtherCAT or pulse

Tool servo

Film servo

Tailstock servo

Material positioning servo

Material supplementing AC drive 1

Material supplementing AC drive 2

…...
Other AC drive axes

Model Selection

Max. 16 local expansion modules

Stopper plate
X210 cable
T024-K terminal block

Adapter board

EtherCAT

Power supply module

EtherCAT coupler

Stopper plate
X210 cable
T024-K terminal block

Adapter board

GL10 series centralized universal expansion modules

EtherCAT

GR10 series distributed high-speed expansion modules

Servos

AC drives

Ordering Information

Series	Code	Model	Description	Certification
CPU: H5U series high-performance EtherCAT bus small PLC	01440087	H5U-1614MTD	Small PLC-H5U-1614MTD-H5U series 16-in 14-out PLC	CE
	01440236	H5U-1614MTD-A8	Small PLC-H5U-1614MTD-H5U series 16-in 14-out PLC 8-axis	CE
	01440235	H5U-1614MTD-A16	Small PLC-H5U-1614MTD-H5U series 16-in 14-out PLC 16-axis	CE

Series	Code	Model	Description	Certification	
H5U local expansion module: GL series centralized universal module	01440074	GL10-PS2	GL10-PS2-GL10 series PLC power supply module (used to power AM series PLCs, ECTA couplers, or COP couplers)	CE/UL	
	01440073	GL10-RTU-ECTA	GL10-RTU-ECTA-series PLC EtherCAT (auto scan) COMM module-coupler	CE/UL	
	01440083	GL10-RTU-COP	GL10-RTU-COP-GL10 series PLC CANopen COMM remote expansion module-coupler	CE/UL	
	01440066	GL10-1600END	GL10-1600END-GL10 series PLC 16DI module	CE/UL	
	01440076	GL10-3200END	GL10-3200END-GL10 series PLC 32DI module	CE/UL	
	01440180	GL10-3200END-F01	GL10-3200END-F01-GL10 series PLC 32DI 0.1 ms filter module	CE/UL	
	01440067	GL10-0016ETN	GL10-0016ETN-GL10 series PLC 16 digital transistor NPN output module	CE/UL	
	01440069	GL10-0016ETP	GL10-0016ETP-GL10 series PLC 16 digital transistor PNP output module	CE/UL	
	01440081	GL10-0016ER	GL10-0016ER-GL10 series PLC 16 digital RO module	CE/UL	
	01440082	GL10-0032ETN	GL10-0032ETN-GL10 series PLC 32DO module	CE/UL	
	01440080	GL10-4AD	GL10-4AD-GL10 series PLC 4AI module	CE/UL	
	01440071	GL10-4DA	GL10-4DA-GL10 series PLC 4AO module	CE/UL	
	01440075	GL10-4PT	GL10-4PT-GL10 series PLC 4-in RTD module	CE/UL	
	01440078	GL10-4TC	GL10-4TC-GL10 series PLC 4-in TC TEMP MEAS module	CE/UL	
	01440070	GL10-8TC	GL10-8TC-GL10 series PLC 8-in TC TEMP MEAS module	CE/UL	
AM600 local expansion module	01440023	AM600-3200END	AM600 series 32-in module (used with X210-5-0.5/2, T024-K): terminal block wiring	UL	Used with adapter boards (if necessary on site)
	01440025	AM600-0032ETN	AM600 series 32-out module (used with X210-5-0.5/2, T024-K): terminal block wiring	UL	
AM600 local expansion module accessories	15300119	X210-5-0.5	40-pin outgoing cable-0.5 m (used by AM600-0032ETN and AM600-3200END modules)	-	
	15300193	X210-5-2	40-pin outgoing cable-2.0 m (used by AM600-0032ETN and AM600-3200END modules)	-	
	15020452	T024-K	AM600 32-point module terminal block (used by AM600-0032ETN and AM600-3200END modules)	-	
	15050180	FCN-40	40-pin terminal, used when I/O is rarely used (used by AM600-0032ETN and AM600-3200END modules)	-	
Remote expansion module: GR series distributed high-speed module	01440077	GR10-0808ETNE	GR10-0808ETNE-GR10 series PLC 8-in 8-out EtherCAT slave module	CE/UL	24 V external power supply
	01440079	GR10-1616ETNE	GR10-1616ETNE-GR10 series PLC 16-in 16-out EtherCAT slave module	CE/UL	
	01440298	GR10-1616ETNE-T01	GR10-1616ETNE-GR10 series PLC 16-in 16-out EtherCAT slave module (0.1 ms input filter)	CE/UL	
	01440058	GR10-4ADE	GR10-4ADE-GR10 series medium-sized PLC 4AI EtherCAT slave module	CE/UL	
	01440060	GR10-4DAE	GR10-4DAE-GR10 series medium-sized PLC 4AO EtherCAT slave module	CE/UL	
	01440059	GR10-8TCE	GR10-8TCE-GR10 series medium-sized PLC EtherCAT slave module (8 TC inputs)	CE/UL	
	01440068	GR10-4PME	GR10-4PME-GR10 series PLC EtherCAT slave module (4 positioning outputs)	CE/UL	
	01440072	GR10-2HCE	GR10-2HCE-GR10 series PLC 2-channel ABZ high-speed counting EtherCAT slave module-2M counter	CE/UL	
	01440120	GR10-2PHE	GR10-2PHE-GR10 series PLC 2-channel high-speed DIFF pulse output EtherCAT slave remote expansion module	CE/UL	
	01440177	GR10-1616ERE-BD	GR10 series PLC 16-in 16RO EtherCAT slave board		
	72030017	GR10-4TCS-PID	Control technology accessory-AI-70482D7-4 TC input TEMP controller	CE	

For details about other temperature control, weighing, and Ethernet to serial modules, please contact Inovance technical support.
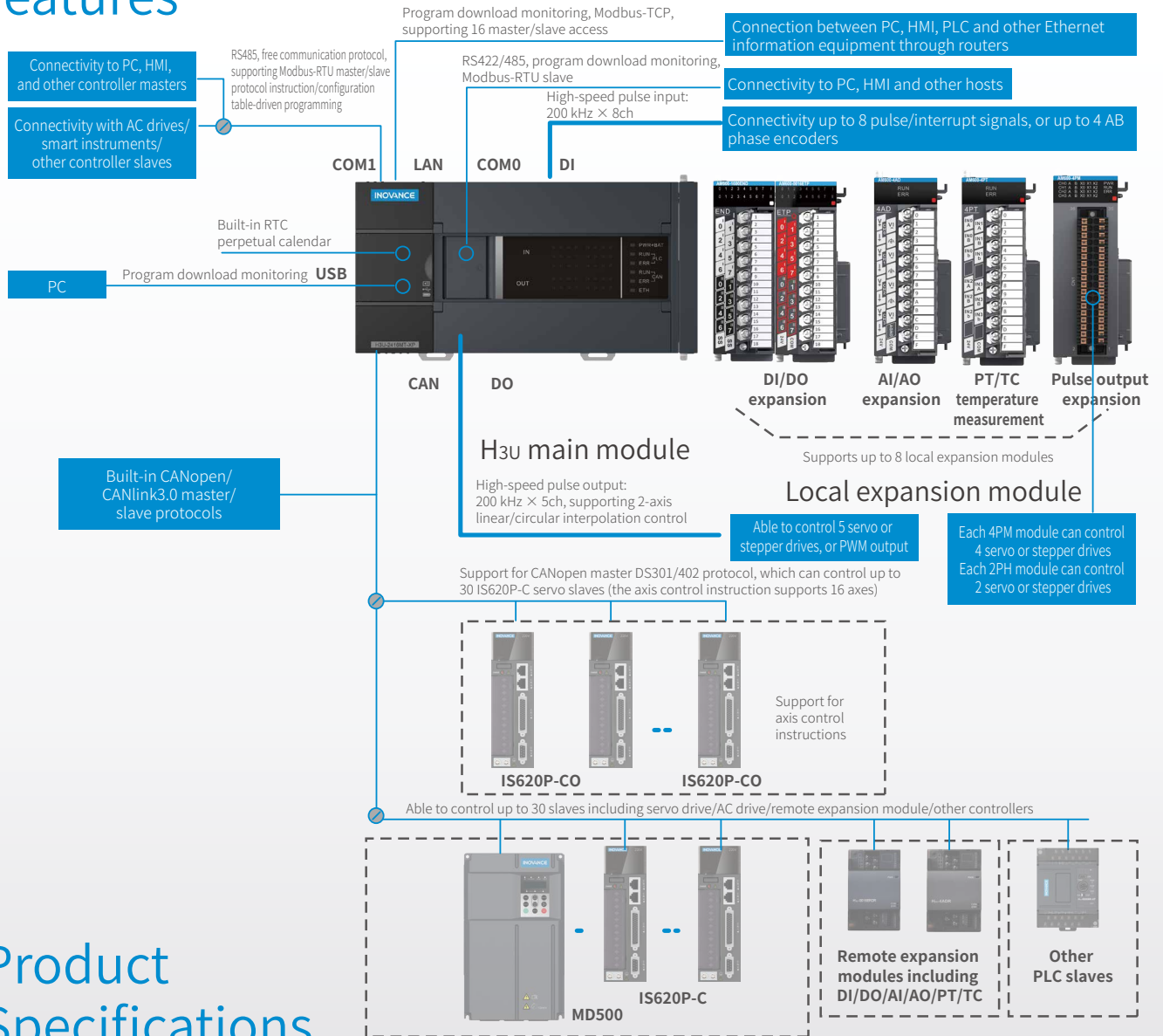
H3U Series

CAN bus high-performance small PLC

90 mm

90 mm

170+Xmm
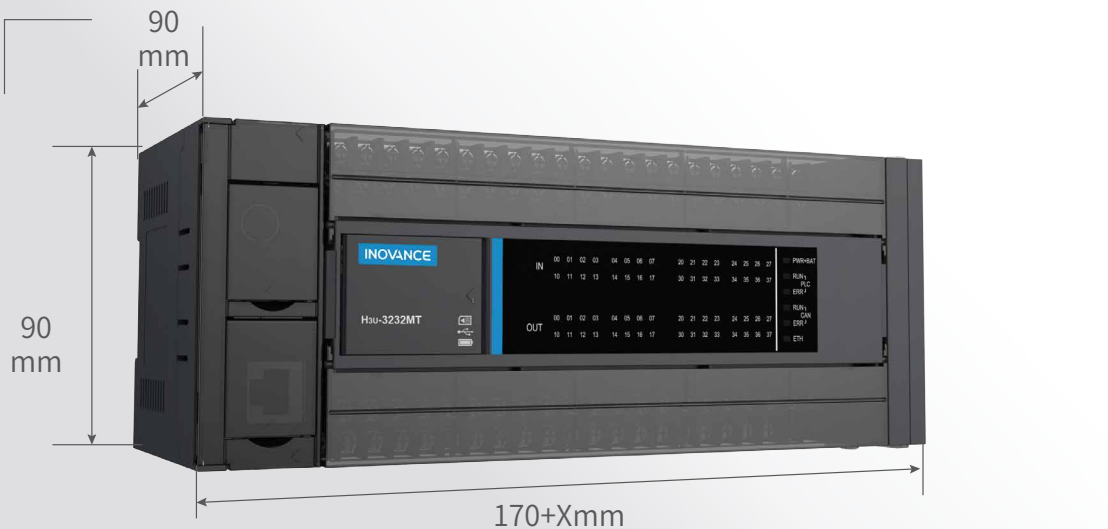
- Eight 200 k high-speed pulse inputs.
- Five 200 k high-speed pulse outputs; more positioning instructions; support for S-curve acceleration and deceleration.
- Two-axis arc and linear interpolation high-speed output.
- Separate serial communication interfaces COM0 and COM1; support for USB monitoring download.
- The main module provides an Ethernet interface which supports Modbus-TCP.
- The main module provides a CAN communication interface which supports CANopen and CANlink protocols.
- 64 k-step program flash memory without any battery.
- Power failure retention register: 32k words for the R element and 8k words for the D element, no battery is needed.
- 150% increase in overall scanning speed compared with H2U-XP.
- Supports up to 8 GL10 expansion modules.
- Support 8 external interrupt inputs.
- Over 120 new instructions, including floating point calculation, data block processing, matrix processing, character string processing, and positioning instructions.
- Super bright blue LED indicator.

Features

Program download monitoring, Modbus-TCP, supporting 16 master/slave access

Connection between PC, HMI, PLC and other Ethernet information equipment through routers

Connectivity to PC, HMI, and other controller masters

RS485, free communication protocol, supporting Modbus-RTU master/slave protocol instruction/configuration table-driven programming

RS422/485, program download monitoring, Modbus-RTU slave

Connectivity to PC, HMI and other hosts

Connectivity with AC drives/ smart instruments/ other controller slaves

High-speed pulse input: 200 kHz × 8ch

Connectivity up to 8 pulse/interrupt signals, or up to 4 AB phase encoders

COM1   LAN   COM0   DI

Built-in RTC perpetual calendar

PC

Program download monitoring **USB**

CAN   DO

DI/DO expansion

AI/AO expansion

PT/TC temperature measurement

Pulse output expansion

H3U main module

High-speed pulse output: 200 kHz × 5ch, supporting 2-axis linear/circular interpolation control

Supports up to 8 local expansion modules

Local expansion module

Built-in CANopen/ CANlink3.0 master/ slave protocols

Able to control 5 servo or stepper drives, or PWM output

Each 4PM module can control 4 servo or stepper drives
Each 2PH module can control 2 servo or stepper drives

Support for CANopen master DS301/402 protocol, which can control up to 30 IS620P-C servo slaves (the axis control instruction supports 16 axes)

IS620P-CO   IS620P-CO

Support for axis control instructions

Able to control up to 30 slaves including servo drive/AC drive/remote expansion module/other controllers

Remote expansion modules including DI/DO/AI/AO/PT/TC

Other PLC slaves

MD500

IS620P-C

Product Specifications

Model	H3U series high-performance CAN bus small PLC (mainly for CANlink axis motion control and Ethernet communication)
Axis capacity	Up to 16 axes (CANlink or CANopen axis) + 5 pulse axes + 4 GL10-4PM expansion modules (or 4 GL10-2PH)
communication port	EtherNet, CAN, RS485 (one), RS422 (one), USB
CAN communication	Support for CANlink and CANopen axis control instructions
Program capacity	64K steps
Data capacity	48K word
Storage capacity in case of a power failure	40K word
Basic instruction rate	Logic instructions: 100 ns, floating point operation: 4 us
High-speed Input	200K (8)
High-speed output	200k (5 outputs), S-curve acceleration and deceleration (MR models do not support high-speed output; 6P models are 6-axis supporting CAN communication.)
System time	Supported
Interpolation	2-axis arc and 2-axis straight line
Electronic cam	Not recommended (Cam is recommended for medium-sized PLCs.)
Terminal Type	Removable screw terminal
Local module expansion	Supports up to 512 local expansion I/O points: the number of points is calculated according to the number of local expansion modules (max. 8 local expansion modules, including I/O modules and special expansion modules)
Dimensions	L * W * H = 170 + X * 90 * 90

H3U Applications

National Day parade floats

The ultimate test of the stability of H3U axis control

National Day parade floats: as the central controller of the whole vehicle, Inovance's H3U small PLC, which controls IS620P servo drives through CANlink axis control instructions, has proved its stability in extreme conditions.

Curved screen laminating machine

CANlink point control brings supreme performance

6-axis CANlink axis control through CANlink, and 9-axis pulse control through high-speed output and a 4PM module.

Free switchover between film laminating for curved glass back covers, curved glass touch screens and screen protectors.

Applicable to: 5" to 5.5" curved glass back covers and curved glass touch screens

Accuracy: ±0.05 mm

Quality requirements: No bubbles should be present on the edge of the product

Production capacity: 150 p/1 h

Pirani vacuum gage — RS485 — Ethernet Modbus TCP/IP — IT7070E — Host computer

H3U-3232MT — AM600-4PM positioning module — Local high-speed I/O

CANlink

IS620P

CCD alignment — CCD alignment

| 1# upper cavity turning axis 400W | 1# lower cavity Y axis 400W | Rear camera X axis 100W | Front camera X axis 100W | 2# upper cavity turning axis 400W | 2# lower cavity Y axis 400W | Glass feeding Y-axis stepping | 1# Lifting Z axis stepping | UVW platform | 2# Lifting Z axis stepping | UVW platform |

High-speed cutting machine

CANlink axis control superposition tension control algorithm enables fast operation

Based on the CANlink bus, this solution uses an H3U small PLC integrated with a tension control algorithm function block to control 5 servo drives and 2 AC drives, simplifying wiring and commissioning.

Electric eye

Unwinding reel

Web guiding system

Traction shaft

Cutter shaft

Upper guide shaft

Lower guide shaft

Upper pressure roller

Upper winding reel

Lower pressure roller

Lower winding reel
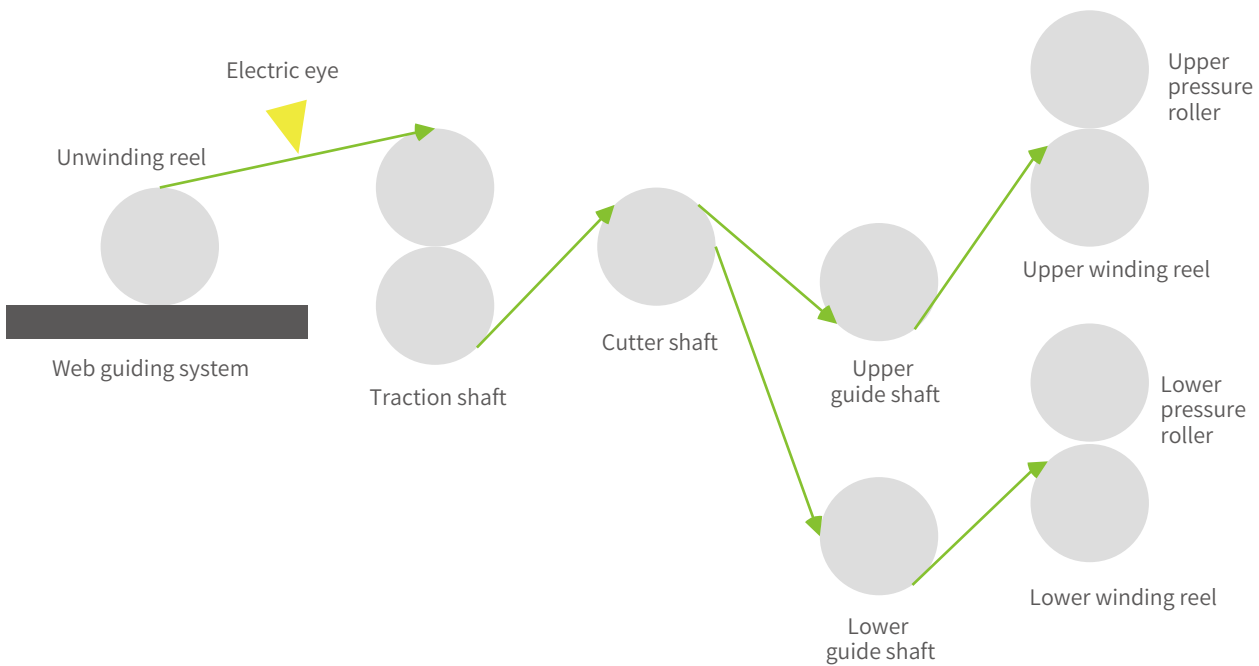
Performance

400 m/min: acceleration 25s, deceleration 15s
Rewinding and unwinding tension fluctuation:
±2 N, traction: ±1 N

IT7070E

H3U-3232MT-XP

CANlink

Model Selection

Max. 8 local expansion modules

Stopper plate
X210 cable
T024-K terminal block

Adapter board

GL10 series centralized universal expansion modules

Supports bus-based,
CANopen coupler (GL10-RTU-COP) embedded,
or CANlink remote expansion modules.

H2U-0016ERDR   H2U-4ADR   H2U-4PTR-XP
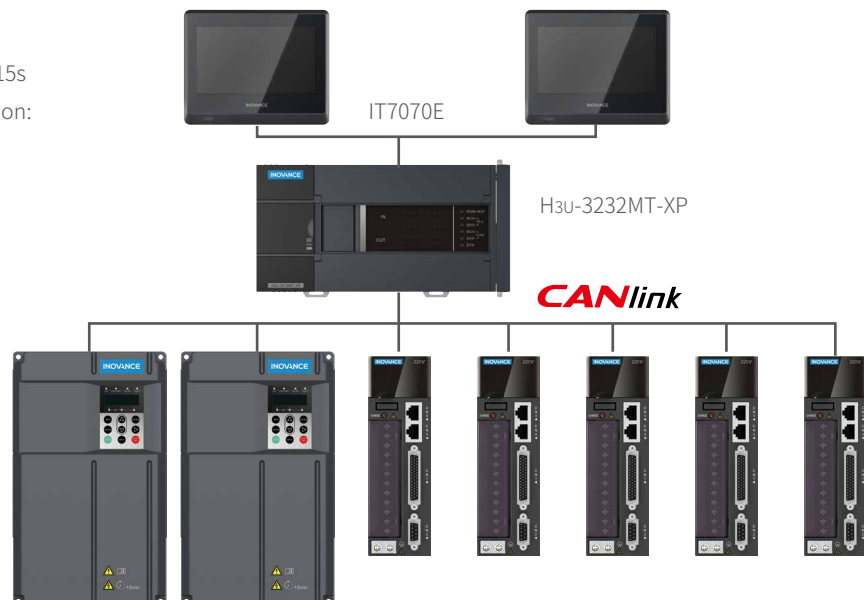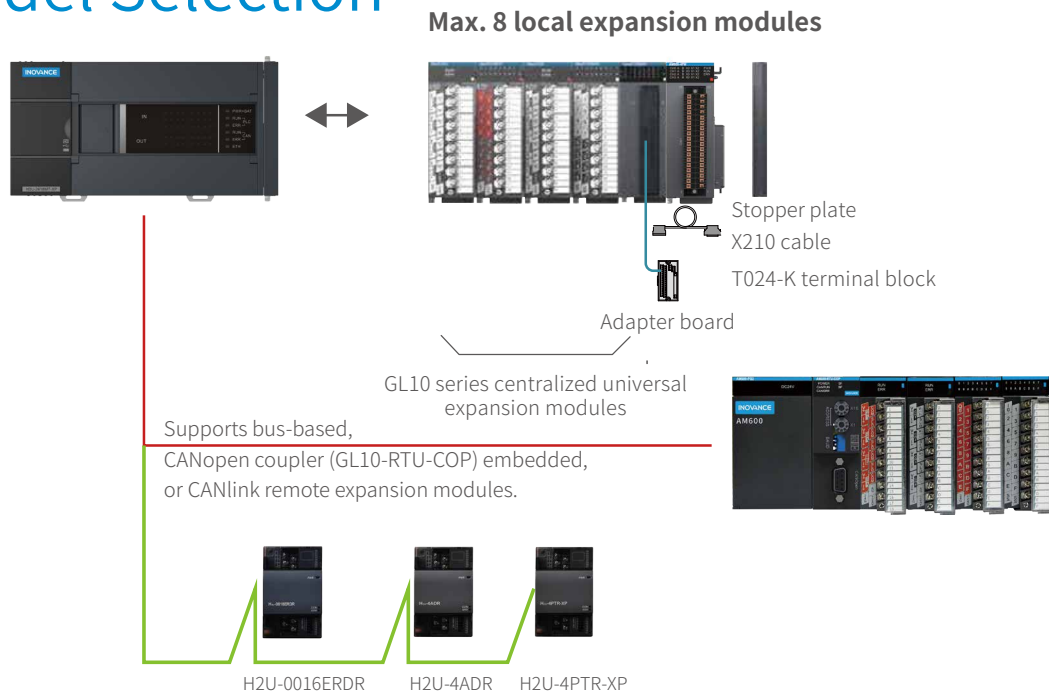
H3S series economical high-performance small PLC evolved from H3U series.

Suitable for equipment control in mobile phone assembly, packaging and printing, and the like

	Program Capacity	Data Capacity	High-Speed Input	High-Speed Output	Ethernet	CANlink/CANopen	System Time	Terminal Type	Local Expansion
H3U-XP	64k	48k	8*200k	5*200k	Supported	Supported	Supported	Removable	Supported
H3S			4*200k			Not supported	Not supported	Removable	

Ordering Information

Series	Code	Model	Description	Certification
CPU: H3U series high-performance CAN bus small PLC	01440021	H3U-1616MT-XP	Small PLC-H3U-1616MT-XP-32 points-transistor output-H3U universal main module	CE
	01440022	H3U-1616MR-XP	Small PLC-H3U-1616MR-XP-32 points-relay output-H3U universal main module	CE
	01440048	H3U-2416MT-XP	Small PLC-H3U-2416MT-XP-40 points-transistor output-H3U universal main module	-
	01440049	H3U-2416MR-XP	Small PLC-H3U-2416MR-XP-40 points-relay output-H3U universal main module	-
	01440055	H3U-3624MT	Small PLC-H3U-3624MT-60 points-transistor output-H3U universal main module	-
	01440232	H3U-3624MT-6P	Small PLC-H3U-3624MT-60 points-transistor output-H3U universal main module-6 pulse outputs	
	01440054	H3U-3624MR	Small PLC-H3U-3624MR-60 points-relay output-H3U universal main module	-
	01440015	H3U-3232MT	Small PLC-H3U-3232MT-64 points-transistor output-H3U universal main module	CE
	01440020	H3U-3232MR	Small PLC-H3U-3232MR-64 points-relay output-H3U universal main module	CE

Series	Code	Model	Description	Certification
CPU: H3S series economical high-performance small PLC	01440100	H3S-1616MT-XP	Small PLC-H3S-1616MT-XP-32 points-transistor output-H3S universal main module	CE
	01440099	H3S-1616MR-XP	Small PLC-H3S-1616MR-XP-32 points-relay output-H3S universal main module	CE
	01440097	H3S-2416MT-XP	Small PLC-H3S-2416MT-XP-40 points-transistor output-H3S universal main module	CE
	01440098	H3S-2416MR-XP	Small PLC-H3S-2416MR-XP-40 points-relay output-H3S universal main module	CE
	01440096	H3S-3624MT	Small PLC-H3S-3624MT-60 points-transistor output-H3S universal main module	CE
	01440095	H3S-3624MR	Small PLC-H3S-3624MR-60 points-relay output-H3S universal main module	CE
	01440094	H3S-3232MT	Small PLC-H3S-3232MT-64 points-transistor output-H3S universal main module	CE
	01440093	H3S-3232MR	Small PLC-H3S-3232MR-64 points-relay output-H3S universal main module	CE

H3U local and remote expansion module (H3S does not support CAN expansion.)

Series	Code	Model	Description	Certification	
Local: GL10 series centralized universal module Remote: CANlink remote expansion module or CANopen (GL10-RTU-COP coupler) expansion module	01440074	GL10-PS2	GL10-PS2-GL10 series PLC power supply module (used to power AM series PLCs or ECTA couplers)	CE/UL	
	01440083	GL10-RTU-COP	GL10-RTU-COP-GL10 series PLC CANopen COMM remote expansion module-coupler	CE/UL	
	01440066	GL10-1600END	GL10-1600END-GL10 series PLC 16DI module	CE/UL	
	01440076	GL10-3200END	GL10-3200END-GL10 series PLC 32DI module	CE/UL	
	01440180	GL10-3200END-F01	GL10-3200END-F01-GL10 series PLC 32DI 0.1 ms filter module	CE/UL	
	01440067	GL10-0016ETN	GL10-0016ETN-GL10 series PLC 16 digital transistor NPN output module	CE/UL	
	01440069	GL10-0016ETP	GL10-0016ETP-GL10 series PLC 16 digital transistor PNP output module	CE/UL	
	01440081	GL10-0016ER	GL10-0016ER-GL10 series PLC 16 digital RO module	CE/UL	
	01440082	GL10-0032ETN	GL10-0032ETN-GL10 series PLC 32DO module	CE/UL	
	01440080	GL10-4AD	GL10-4AD-GL10 series PLC 4AI module	CE/UL	
	01440071	GL10-4DA	GL10-4DA-GL10 series PLC 4AO module	CE/UL	
	01440075	GL10-4PT	GL10-4PT-GL10 series PLC 4-in RTD module	CE/UL	
	01440078	GL10-4TC	GL10-4TC-GL10 series PLC 4-in TC TEMP MEAS module	CE/UL	
	01440070	GL10-8TC	GL10-8TC-GL10 series PLC 8-in TC TEMP MEAS module	CE/UL	
	01440129	GL10-4PM	GL10-4PM-GL10 series PLC 4-axis positioning output local module (H3U/H3S only)	CE/UL	
	01440121	GL10-2PH	GL10-2PH-GL10 series PLC 2-channel high-speed DIFF pulse output function expansion module (H3U/H3S only)	CE/UL	
AM600 local expansion module	01440023	AM600-3200END	AM600 series 32-in module (used with X210-5-0.5/2, T024-K): terminal block wiring	UL	
	01440025	AM600-0032ETN	AM600 series 32-out module (used with X210-5-0.5/2, T024-K): terminal block wiring	UL	
AM600 local expansion module accessories	15300119	X210-5-0.5	40-pin outgoing cable-0.5 m (used by AM600-0032ETN and AM600-3200END modules)	-	Used with adapter boards (if necessary on site)
	15300193	X210-5-2	40-pin outgoing cable-2.0 m (used by AM600-0032ETN and AM600-3200END modules)	-	
	15020452	T024-K	AM600 32-point module terminal block (used by AM600-0032ETN and AM600-3200END modules)	-	
	15050180	FCN-40	40-pin terminal, used when I/O is rarely used (used by AM600-0032ETN and AM600-3200END modules)	-	

CANlink Remote Expansion Modules

Series	Code	Model	Description	Certification
CANlink remote expansion module	01024002	H2U-0016ETDR	Expansion module-H2U-0016ETDR-16 transistor output remote expansion module	-
	01024004	H2U-0016ERDR	Expansion module-H2U-0016ERDR-16RO remote expansion module	-
	01024014	H2U-1600ENDR	Expansion module-H2U-1600ENDR-16DI remote expansion module	-
	01024008	H2U-4ADR	Expansion module-H2U-4ADR-4AI remote expansion module	-
	01024009	H2U-4DAR	Expansion module-H2U-4DAR-4AO remote expansion module	-
	01024024	H2U-2ADR	Expansion module-H2U-2ADR-2AI remote expansion module	-
	01024025	H2U-4AMR	Expansion module-H2U-4AMR-2-in 2-out analog remote expansion module	-
	01024027	H2U-6AMR	Expansion module-H2U-6AMR-4 current input 2-out analog remote expansion module	-
	01024029	H2U-6CMR	Expansion module-H2U-6CMR-4 voltage input 2-out remote expansion module	-
	01024032	H2U-4PTR-XP	Expansion module-H2U-4PTR-XP-4PT remote expansion module	-
	01024034	H2U-4TCR-XP	Expansion module-H2U-4TCR-XP-4TC remote expansion module	-
	01024035	H2U-0808ERDR	Expansion module-H2U-0808ERDR-8DI 8RO hybrid remote expansion module	-

For details about other temperature control, weighing, and Ethernet to serial modules,
please contact Inovance technical support.

H2U Series

General-purpose small PLC

Two RS485 communication ports
130+Xmm

Input terminal

Multiple expansion modules

90 mm

Expansion board

88 mm

Program download communication port COM0

Program download communication port USB

Output terminal
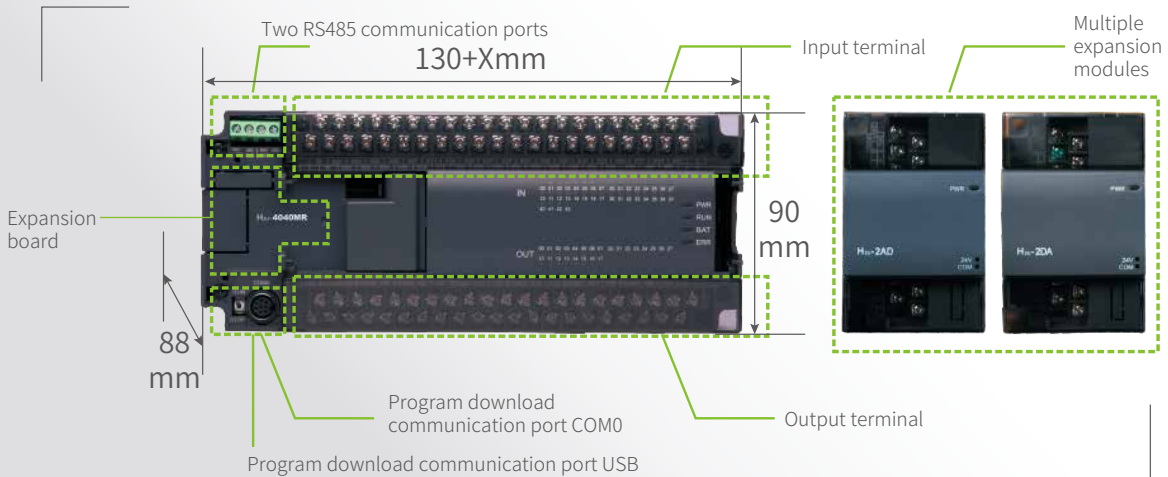
- Provides multi-channel high-frequency high-speed input and output ports, which allow for various motion and positioning control functions.
- Three separate serial communication ports COM0-COM2; support for USB monitoring download and CANlink3.0 networking.
- A variety of communication protocols and communication instructions to facilitate system integration.
- Provides encrypted download and upload of user programs and subroutine encryption to protect the user's intellectual property.
- 16k-step program storage capacity
- Fast computation; 127 subroutines; 4 encryption subroutines and 21 interrupt subroutines; user programs and power failure retention elements are permanently saved under in case of power failure.
- Built-in large-capacity power supply for sensors, HMI, and external auxiliary relays.

Powerful	Customizable	Expandable
- Support for various external events and external control needs; powerful data computing capability.	- Complex instructions are introduced using a wizard, and communication is achieved using configuration table.	- The expansion module supports various sensors. - 256 I/Os can be expanded. - 32 remote modules can be expanded.

Various Communication Interfaces

Support for a variety of communication protocols reduces costs.

COM2 (RS485) 1:1; N:N; Modbus R TU/ASC (master/slave); Qlink; HMI monitoring protocol; free communication protocol ...

COM1 (RS485) 1:1; N:N; Modbus R TU/ASC (master/slave); Qlink; HMI monitoring protocol; free communication protocol ...

Mini USB (Under the PLC) for programming and commissioning

COM0 (RS422) Modbus RTU (slave); Qlink; download and monitoring protocol;

Expansion card

COM1
- H2u-232-BD: (RS232)
- H2u-485IF-BD: (RS485 isolation)
- H2u-422-BD: (RS422)

Note: This card and COM1 port cannot be used at the same time.

CAN — H2u-CAN-BD: (CAN) CANlink3.0

以太网 — H2u-ENET-BD: (Ethernet) Modbus/TCP

Note: With the Qlink protocol, Inovance 's HMI and PLC will automatically communicate at high speed without special setting by the user.

Application Topology

Connectivity to PC, HMI, and other controller masters

RS485, support free communication protocol
Modbus-RTU master/slave protocol
1:1, N:N protocol
Instruction/configuration table-driven programming

Connectivity with AC drives/ smart instruments/ other controller slaves

High-speed pulse input

Supports 2 60K (X0-X1) and 4 10K (X2-X5). The total frequency cannot exceed 70K

COM1 **COM2** **DI**

Built-in RTC perpetual calendar

Option
H2U-485IF-BD

Option
H2U-6A-BD

Option
H2U-CAN-BD

H2U-1010MR-XP
RELAY UNIT

H2U-1600ENN

H2U-0016ERDR

H2U-2AD

H2U-4PT

DI/DO expansion

AI/AO expansion

PT/TC temperature measurement

IO can be expanded up to 256 points + 8 local analog expansion modules

USB

High-speed pulse output

Able to control 3–5 servo or stepper drives, or PWM output

H2U master module

Local expansion module

Program download monitoring

PC

Connectivity to PC, HMI and other hosts

RS422/485, program download, Modbus-RTU slave

Able to control up to 30 slaves including servo drive/AC drive/remote expansion module/other controllers

IS620P-C

MD500

Remote expansion modules including DI/DO/AI/AO/PT/TC

Other PLC slaves

Product Specifications

Model	H2U series general-purpose small PLC
Axis capacity	3 pulse axes
communication port	RS485 (2), RS422 (1)
CAN communication	Supports CAN card
Program capacity	16K steps
Data capacity	10K word
Storage capacity in case of a power failure	8K word
Basic instruction rate	100ns
High-speed Input	Supports two 60K (X0-X1) and four 10K (X2–X5). The total frequency cannot exceed 70K (except for MTP, MTQ)
High-speed Output	Three 100K (relays and MTP models not supported), S-curve acceleration or deceleration not supported (Note: MTP models have 8 100K high-speed pulse outputs and no high-speed input.)
System time	Supported
Expansion card	Support function expansion card
Local module expansion	Max. 8 I/O modules and special modules
Terminal type	Removable
Remarks	You can connect the 24V terminal reversely for a 24V power supply
Dimensions	L * W * H = 130 + X * 88 * 90

Model Selection

H2U Local Expansion

Local — Max. 8 special-purpose local expansion modules

H2U-XP   H2U-0808ERN   H2U-4DA   H2U-4TC-XP

H2U Remote Expansion

H2U-CAN-BD   H2U-XP   CANlink3.0   H2U-0808ERDR   H2U-4DAR   H2U-4TCR-XP

Max. 62 remote expansion modules

A Variety of Expansion Functions (Expansion Cards)

H2U series expansion cards

| H2U-232-BD | H2U-422-BD | H2U-485IF-BD | H2U-6A-BD | H2U-6B-BD | H2U-CAN-BD |
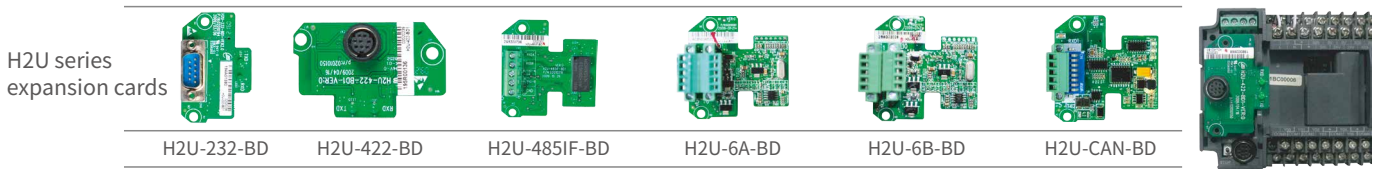
Note: Expansion cards (232, 485, and 422) of H1U and H2U series occupy port COM1, that is, COM1 is unavailable when the expansion cards are used; CAN and analog expansion cards can use the serial port and do not occupy COM1.

H2S series economical general-purpose small PLC evolved from H2U series.

Suitable for all non-standard automation control applications requiring cost-efficiency

	Program Capacity	Data Capacity	CAN Card	System time	Terminal Type	Function Expansion Card	RS485 Interfaces	Local Expansion
H2U-XP	16k		Supported	Supported	Removable	Supported	2	8 special modules
H2S	8k	8k	Not supported	Not supported	Unremovable for 20-point and 32-point models	Supported	1	4 special modules

Note: H2S does not support CAN or Ethernet expansion cards.

Ordering Information

Series	Code	Model	Description	Certification
CPU: H2U series general-purpose small PLC	01022079	H2U-1010MT-XP	Small PLC-H2U-1010MT-XP-20 points-transistor output-H2U universal main module	CE
	01022078	H2U-1010MR-XP	Small PLC-H2U-1010MR-XP-20 points-relay output-H2U universal main module	CE
	01022041	H2U-1616MT-XP	Small PLC-H2U-1616MT-XP-32 points-transistor output-H2U universal main module	CE
	01022040	H2U-1616MR-XP	Small PLC-H2U-1616MR-XP-32 points-relay output-H2U universal main module	CE
	01022049	H2U-2416MT-XP	Small PLC-H2U-2416MT-XP-40 points-transistor output-H2U universal main module	CE
	01022048	H2U-2416MR-XP	Small PLC-H2U-2416MR-XP-40 points-relay output-H2U universal main module	CE
	01022047	H2U-3624MT-XP	Small PLC-H2U-3624MT-XP-60 points-transistor output-H2U universal main module	CE
	01022046	H2U-3624MR-XP	Small PLC-H2U-3624MR-XP-60 points-relay output-H2U universal main module	CE
	01022045	H2U-3232MT-XP	Small PLC-H2U-3232MT-XP-64 points-transistor output-H2U universal main module	CE
	01022050	H2U-3232MR-XP	Small PLC-H2U-3232MR-XP-64 points-relay output-H2U universal main module	CE
	01022061	H2U-3232MTP	Small PLC-H2U-3232MTP-64 points-transistor output-H2U series 8-HS-output type main module (without high-speed input)	-
	01022062	H2U-4040MT-XP	Small PLC-H2U-4040MT-XP-80 points-transistor output-H2U universal main module	CE
	01022042	H2U-4040MR-XP	Small PLC-H2U-4040MR-XP-80 points-relay output-H2U universal main module	CE
	01022044	H2U-6464MT-XP	Small PLC-H2U-6464MT-XP-128 points-transistor output-H2U universal main module	CE
	01022043	H2U-6464MR-XP	Small PLC-H2U-6464MR-XP-128 points-relay output-H2U universal main module	CE

Series	Code	Model	Description	Certification
CPU: H2S series economical general-purpose small PLC	01440061	H2S-1010MT-XP	Small PLC-H2S-1010MT-XP-20 points-transistor output-H2S universal main module	CE
	01440062	H2S-1010MR-XP	Small PLC-H2S-1010MR-XP-20 points-relay output-H2S universal main module	CE
	01440056	H2S-1616MT-XP	Small PLC-H2S-1616MT-XP-32 points-transistor output-H2S universal main module	CE
	01440057	H2S-1616MR-XP	Small PLC-H2S-1616MR-XP-32 points-relay output-H2S universal main module	CE
	01440111	H2S-2416MT-XP	Small PLC-H2S-2416MT-XP-40 points-transistor output-H2S universal main module	CE
	01440110	H2S-2416MR-XP	Small PLC-H2S-2416MR-XP-40 points-relay output-H2S universal main module	CE
	01440112	H2S-3624MT-XP	Small PLC-H2S-3624MT-XP-60 points-transistor output-H2S universal main module	CE
	01440113	H2S-3624MR-XP	Small PLC-H2S-3624MR-XP-60 points-relay output-H2S universal main module	CE
	01440114	H2S-3232MT-XP	Small PLC-H2S-3232MT-XP-64 points-transistor output-H2S universal main module	CE
	01440115	H2S-3232MR-XP	Small PLC-H2S-3232MR-XP-64 points-relay output-H2S universal main module	CE
	01440116	H2S-4040MT-XP	Small PLC-H2S-4040MT-XP-80 points-transistor output-H2S universal main module	CE
	01440117	H2S-4040MR-XP	Small PLC-H2S-4040MR-XP-80 points-relay output-H2S universal main module	CE
	01440118	H2S-6464MT-XP	Small PLC-H2S-6464MT-XP-128 points-transistor output-H2S universal main module	CE
	01440119	H2S-6464MR-XP	Small PLC-H2S-6464MR-XP-128 points-relay output-H2S universal main module	CE

Ordering Information

H2U/S Series Local Expansion Modules

Series	Code	Model	Description	Certification
H2U series local expansion module	01024003	H2U-0016ETN	Expansion module-H2U-0016ETN-16 transistor output local expansion module	CE
	01024005	H2U-0016ERN	Expansion module-H2U-0016ERN-16RO local expansion module	CE
	01024006	H2U-4AD	Expansion module-H2U-4AD-4AI local expansion module	CE
	01024007	H2U-4DA	Expansion module-H2U-4DA-4AO local expansion module	CE
	01024015	H2U-1600ENN	Expansion module-H2U-1600ENN-16DI local expansion module	CE
	01024020	H2U-6AM	Expansion module-H2U-6AM-4 current input 2-out analog local expansion module	CE
	01024021	H2U-2AD	Expansion module-H2U-2AD-2AI local expansion module	CE
	01024022	H2U-2DA	Expansion module-H2U-2DA-2AO local expansion module	CE
	01024023	H2U-4AM	Expansion module-H2U-4AM-2-in 2-out analog local expansion module	CE
	01024030	H2U-6CM	Expansion module-H2U-6CM-4 voltage input 2-out local expansion module	CE
	01024031	H2U-4PT-XP	Expansion module-H2U-4PT-XP-4PT local expansion module	CE
	01024033	H2U-4TC-XP	Expansion module-H2U-4TC-XP-4TC local expansion module	-
	01024036	H2U-0808ERN	Expansion module-H2U-0808ERN-8DI 8RO hybrid local expansion module	CE
	01024037	H2U-0808ETN	Expansion module-H2U-0808ETN-8DI 8 transistor output hybrid local expansion module	CE
	01024040	H2U-0008ERN	Expansion module-H2U-0008ERN-8RO local expansion module	CE
	01024042	H2U-0008ETN	Expansion module-H2U-0008ETN-8 transistor output local expansion module	CE
	01024044	H2U-0800ENN	Expansion module-H2U-0800ENN-8DI local expansion module	CE
	01024046	H2U-0404ERN	Expansion module-H2U-0404ERN-4DI 4RO hybrid local expansion module	CE
	01024048	H2U-0404ETN	Expansion module-H2U-0404ETN-4DI 4 transistor output hybrid local expansion module	CE
	01440004	H2U-4HC	Expansion module-H2U-4HC-4-channel high-speed AB phase counting-H2U series local module	-
	01029007	H2U-4PT-XP-QX	Expansion module-H2U-4PT-XP-QX-4PT local expansion module (PT changed to NTC)	-

CANlink Remote Expansion Modules

Series	Code	Model	Description	Certification
CANlink remote expansion module	01024002	H2U-0016ETDR	Expansion module-H2U-0016ETDR-16 transistor output remote expansion module	-
	01024004	H2U-0016ERDR	Expansion module-H2U-0016ERDR-16RO remote expansion module	-
	01024014	H2U-1600ENDR	Expansion module-H2U-1600ENDR-16DI remote expansion module	-
	01024008	H2U-4ADR	Expansion module-H2U-4ADR-4AI remote expansion module	-
	01024009	H2U-4DAR	Expansion module-H2U-4DAR-4AO remote expansion module	-
	01024024	H2U-2ADR	Expansion module-H2U-2ADR-2AI remote expansion module	-
	01024025	H2U-4AMR	Expansion module-H2U-4AMR-2-in 2-out analog remote expansion module	-
	01024027	H2U-6AMR	Expansion module-H2U-6AMR-4 current input 2-out analog remote expansion module	-
	01024029	H2U-6CMR	Expansion module-H2U-6CMR-4 voltage input 2-out remote expansion module	-
	01024032	H2U-4PTR-XP	Expansion module-H2U-4PTR-XP-4PT remote expansion module	-
	01024034	H2U-4TCR-XP	Expansion module-H2U-4TCR-XP-4TC remote expansion module	-
	01024035	H2U-0808ERDR	Expansion module-H2U-0808ERDR-8DI 8RO hybrid remote expansion module	-

H2U/S Expansion Cards and Options

Series	Code	Model	Description	Certification
Options of H2U series controller	01013104	MD38PC1	Controller option-MD38PC1-MD380 series multi-function expansion card	-
	01023002	H2U-422-BD	Controller option-H2U-422-BD-PLC expansion card-RS422 communication card	-
	01023003	H2U-232-BD	Controller option-H2U-232-BD-PLC expansion card-RS232 communication card	-
	01023006	H2U-6B-BD	Controller option-H2U-6B-BD-PLC expansion card-4 current (0–20 mA) inputs-2AO	-
	01023007	H2U-6A-BD	Controller option-H2U-6A-BD-2 voltage inputs-2 current inputs-2AO expansion card	-
	01023008	H2U-CAN-BD	Controller option-H2U-CAN-BD-PLC expansion card-CAN isolation communication card	-
	01023009	H2U-485IF-BD	Controller option-H2U-485IF-BD-PLC expansion card-RS485 isolation communication card	-
	01023022	H2U-ENET-BD	Controller option-H2U-ENET-BD-PLC Ethernet expansion card-PLC Ethernet communication card	-
	01023013	H2U-EXP-CAB	Controller option-H2U-EXP-CAB-expansion module extension cable	-
	01023010	H2U-BAT	Controller option-H2U-BAT-PLC battery	-

Options of H2U Series Controller

Series	Code	Model	Description	Certification
Options of H2U series controller	01023020	H2U-2DC	Controller option-H2U-2DC-2 DIFF-to-collector output conversion card (independent hardware that converts DIFF signals to collector signals, applicable to all PLCs)	-

H1U Series

Simplified small PLC

- Provides multi-channel high-frequency high-speed input and output terminals which enable various motion and positioning control functions.
- Two separate serial communication ports, support for USB monitoring download, and various communication protocols.
- Powerful networking capability, supporting CANlink3.0 networking, and providing Modbus instructions to facilitate system integration.
- Provides communication setting function which is normally found in medium-sized PLCs.
- Complete encryption function to protect users' intellectual property rights.
- 16k-step program storage capacity
- The user program and all power failure retention elements are permanently saved in case of power failure.
- The real-time clock is maintained for at least a week when power is off, and no battery is required.

70+Xmm

90 mm

75 mm

Application Topology

Connectivity to PC, HMI, and other controller masters

RS485, support free communication protocol
Modbus-RTU master/slave protocol
1:1, N:N protocol
Instruction/configuration table-driven programming

High-speed pulse input

Supports two 60K (X0–X1) and four 10K (X2–X5). The total frequency cannot exceed 70K

Connectivity with AC drives/ smart instruments/ other controller slaves

DI

COM1

COM0

RS422/485, program download, Modbus-RTU slave

Connectivity to PC, HMI and other hosts

USB

Program download monitoring

PC

Option H1U-232-BD

Option H1U-CAN-BD

High-speed pulse output: 100kHz × 3ch

Able to control 3 servo or stepper drives, or PWM output

Able to control up to 30 slaves including servo drive/AC drive/remote expansion module/other controllers

MD500

IS620P-C

Remote expansion modules including DI/DO/AI/AO/PT/TC

Other PLC slaves

Product Specifications

Model	H1U series simplified small PLC
Axis capacity	3 pulse axes
Communication port	RS485 (1), RS422 (1), USB
CAN communication	Supports CAN card (an H1U-CAN-BD expansion card is required for remote expansion)
Program capacity	16K steps
Data capacity	10K word
Storage capacity in case of a power failure	8K word
Basic instruction rate	100ns
High-speed Input	Supports two 60K (X0–X1) and four 10K (X2–X5). The total frequency cannot exceed 70K
High-speed Output	Three 100K, S-curve acceleration and deceleration are not supported
System time	Supported
Expansion card	Support function expansion card
Local module expansion	Not supported
Terminal type	Removable
Dimensions	L * W * H = 70 + X * 75 * 90

Model Selection

No local expansion

H1U-CAN-BD   H1U-XP

CANlink remote expansion

CANlink3.0   H2U-0016ERDR   H2U-4ADR   H2U-4PTR-XP

Max. 62 remote expansion modules

H1U series expansion cards

H1U-232-BD   H1U-CAN-BD   H1U-4A-BD   H1U-2TP2DA-BD
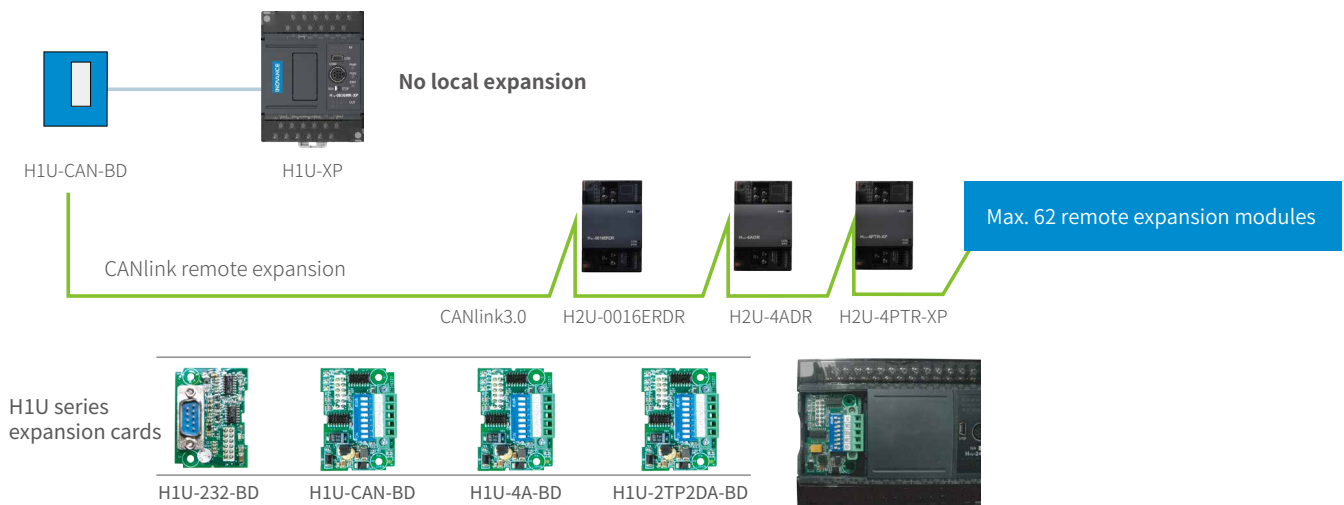
H1S series simplified economical small PLC evolved from H1U series.

Suitable for logic control of individual equipment

	Program Capacity	Data Capacity	CAN Card	System Time	Terminal Type	Function Expansion Card	Supported Point Models
H1U-XP	16k	8k	Supported	Supported	Removable	Supported	All series
H1S	8k		Not supported	Not supported	Unremovable for models of 30 points and below	Supported	All series

Note: H1S does not support CAN expansion cards.

Ordering Information

Series	Code	Model	Description	Certification
H1U series simplified small PLC	01022054	H1U-0806MT-XP	Small PLC-H1U-0806MT-XP-14 points-transistor output-H1U universal main module	CE
	01022053	H1U-0806MR-XP	Small PLC-H1U-0806MR-XP-14 points-relay output-H1U universal main module	CE
	01022074	H1U-1208MT-XP	Small PLC-H1U-1208MT-XP-20 points-transistor output-H1U universal main module	CE
	01022073	H1U-1208MR-XP	Small PLC-H1U-1208MR-XP-20 points-relay output-H1U universal main module	CE
	01022056	H1U-1410MT-XP	Small PLC-H1U-1410MT-XP-24 points-transistor output-H1U universal main module	CE
	01022055	H1U-1410MR-XP	Small PLC-H1U-1410MR-XP-24 points-relay output-H1U universal main module	CE
	01022052	H1U-1614MT-XP	Small PLC-H1U-1614MT-XP-30 points-transistor output-H1U universal main module	CE
	01022051	H1U-1614MR-XP	Small PLC-H1U-1614MR-XP-30 points-relay output-H1U universal main module	CE
	01022059	H1U-2416MT-XP	Small PLC-H1U-2416MT-XP-40 points-transistor output-H1U universal main module	CE
	01022057	H1U-2416MR-XP	Small PLC-H1U-2416MR-XP-40 points-relay output-H1U universal main module	CE
	01022076	H1U-2820MT-XP	Small PLC-H1U-2820MT-XP-48 points-transistor output-H1U universal main module	CE
	01022075	H1U-2820MR-XP	Small PLC-H1U-2820MR-XP-48 points-relay output-H1U universal main module	CE
	01022060	H1U-3624MT-XP	Small PLC-H1U-3624MT-XP-60 points-transistor output-H1U universal main module	CE
	01022058	H1U-3624MR-XP	Small PLC-H1U-3624MR-XP-60 points-relay output-H1U universal main module	CE

Series	Code	Model	Description	Certification
H1S series simplified economical small PLC	01440043	H1S-0806MT-XP	Small PLC-H1S-0806MT-XP-14 points-transistor output-H1S universal main module	CE
	01440044	H1S-0806MR-XP	Small PLC-H1S-0806MR-XP-14 points-relay output-H1S universal main module	CE
	01440091	H1S-1208MT-XP	Small PLC-H1S-1208MT-XP-20 points-transistor output-H1S universal main module	CE
	01440045	H1S-1208MR-XP	Small PLC-H1S-1208MR-XP-20 points-relay output-H1S universal main module	CE
	01440092	H1S-1410MT-XP	Small PLC-H1S-1410MT-XP-24 points-transistor output-H1S universal main module	CE
	01440046	H1S-1410MR-XP	Small PLC-H1S-1410MR-XP-24 points-relay output-H1S universal main module	CE
	01440090	H1S-1614MT-XP	Small PLC-H1S-1614MT-XP-30 points-transistor output-H1S universal main module	CE
	01440040	H1S-1614MR-XP	Small PLC-H1S-1614MR-XP-30 points-relay output-H1S universal main module	CE
	01440106	H1S-2416MT-XP	Small PLC-H1S-2416MT-XP-40 points-transistor output-H1S universal main module	CE
	01440107	H1S-2416MR-XP	Small PLC-H1S-2416MR-XP-40 points-relay output-H1S universal main module	CE
	01440105	H1S-2820MT-XP	Small PLC-H1S-2820MT-XP-48 points-transistor output-H1S universal main module	CE
	01440104	H1S-2820MR-XP	Small PLC-H1S-2820MR-XP-48 points-relay output-H1S universal main module	CE
	01440108	H1S-3624MT-XP	Small PLC-H1S-3624MT-XP-60 points-transistor output-H1S universal main module	CE
	01440109	H1S-3624MR-XP	Small PLC-H1S-3624MR-XP-60 points-relay output-H1S universal main module	CE

H1U/S Expansion Cards (H1U/S does not support local expansion.)

Series	Code	Model	Description	Certification
Options of H1U series	01023011	H1U-CAN-BD	Controller option-H1U-CAN-BD-PLC expansion card-CAN isolation communication card	-
	01023017	H1U-232-BD	Controller option-H1U-232-BD-PLC expansion card-RS232 communication card	-
	01023019	H1U-4A-BD	Controller option-H1U-4A-BD-2AI-2AO expansion card	-
	01480002	H1U-COVER1	Controller option-H1U-COVER1-H1U series PLC cover	-
	01480015	H1U-2TP2DA-BD	Controller option-H1U series expansion card-2 TC/TP hybrid temperature input-2 DA analog voltage (0–10 V) output	-

H0U Series

Display and controller integrated multi-function small PLC

- ■ A controller integrating a PLC and display.
- ■ Support for 6 high-speed inputs and 2 high-speed pulse outputs (transistor output).
- ■ 2 serial RS485 communication ports and 1 USB port.
- ■ Up to 25 customizable function keys.
- ■ Program download tool: AutoShop for PLC and HTodEditor for TOD.

240mm

53mm

180 mm

Features
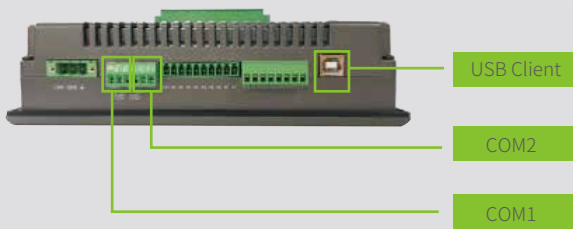
| USB Client | For programming and commissioning |

（RS485）1:1；N:N；
Modbus RTU/ASC（master/slave）；Qlink, computer communication protocol, free communication protocol, etc.

| COM2 |

| COM1 |

（RS485）1:1；N:N；
Modbus RTU/ASC（master/slave）；Qlink, computer communication protocol, free communication protocol, etc.

Product Specifications

Model	H0U series display and controller integrated multi-function small PLC
Axis capacity	2 pulse axes
Communication port	RS485 (2), USB
Program capacity	8K steps
Data capacity	10K word
Storage capacity in case of a power failure	8K word
Basic instruction rate	100ns
High-speed Input	Supports two 60K (X0–X1) and four 10K (X2–X5). The total frequency cannot exceed 70K
High-speed Output	2 high-speed pulse outputs (transistor output). S-curve acceleration and deceleration are not supported
System time	Supported
Local module expansion	Not supported
Remarks	1-with text function (H1U-CAN-BD can be used for CAN communication. If you need the CAN function, please specify it clearly when ordering) 2--6AT is non-standard. See the manual for details
Dimensions	L * W * H = 240 * 53 * 180

Model Selection

| Programming environment | Modbus master device | Modbus slave device | Counter or external pulse signal |

USB   RS485   6 pulse inputs

Direct access to analog data

步进电机

2 pulse outputs

Support for control of servos and stepper drives
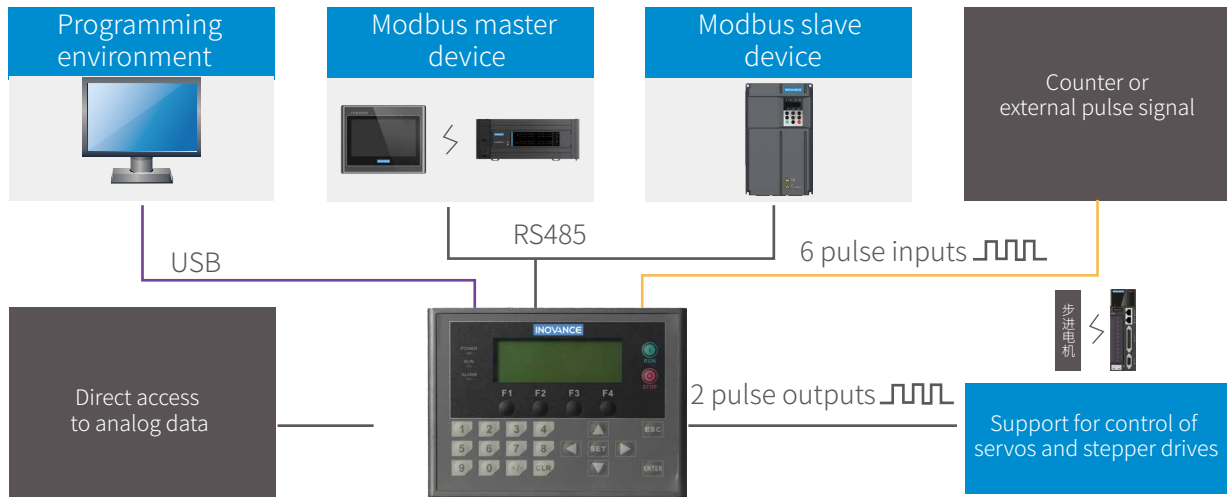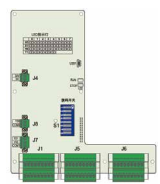
Ordering Information

Series	Code	Model	Description	Certification
H0U series display and controller integrated multi-function small PLC	01022065	H0U-0808MR-XP	Small PLC-H0U-0808MR-XP-16RO-H0U universal main module	CE
	01022063	H0U-0808MRT-XP	Small PLC-H0U-0808MRT-XP-16 hybrid output-H0U universal main module	CE
	01022067	H0U-0808MR-XP-6AT	Small PLC-H0U-0808MR-XP-6AT-16RO-2AI -2AO-2 TEMP MEAS expansion cards-H0U universal main module	CE
	01022070	H0U-0808MRT-XP-6AT	Small PLC-H0U-0808MRT-XP-6AT-16 hybrid output-2AI -2AO-2 TEMP MEAS expansion cards-H0U universal main module	CE
	01022066	H0U-1616MR-XP	Small PLC-H0U-1616MR-XP-32RO-H0U universal main module	CE
	01022064	H0U-1616MRT-XP	Small PLC-H0U-1616MRT-XP-32 hybrid output-H0U universal main module	CE
	01022071	H0U-1616MR-XP-6AT	Small PLC-H0U-1616MR-XP-6AT-32RO-2AI -2AO-2 TEMP MEAS expansion cards-H0U universal main module	CE
	01022072	H0U-1616MRT-XP-6AT	Small PLC-H0U-1616MRT-XP-6AT-32 hybrid output-2AI -2AO-2 TEMP MEAS expansion cards-H0U universal main module	CE
	01029005	H0U-1616-XP-CAN	Small PLC-H0U-1616-XP-CAN-32RO-H0U universal main module (CANlink 3.0)	-

Board PLC and Customized PLC Ordering Information

Series	Code	Model	Description	Picture
Board PLC	01440272	H3U-BD-SC	PLC-H3U-BD-SC-H3U series board controller (This board PLC is developed based on H3U, with network, RJ45 CAN, and RS485 interfaces but no I/O. The communication interface programming is the same as that of other H3U models.)	
	01440002	H1U-1410MTBD	Programmable controller-H1U-1410MTBD-24 transistor output -H1U series board PLC	
	01440128	H1U-1410MTBD-F02	Programmable controller-H1U-1410MTBD-F02-24 transistor output -H1U series board PLC (delivered with mounting baseplate)	
	01480001	H1U-4AMC-BD	Controller-H1U-1410MTBD option-H1U-4AMC-BD -CAN-enabled 2-AI 2-AO board card (used only with H1U-1410MTBD)	
	01480008	H2U-1613MRT10AM-BD	PLC option-H2U-1613MRT10AM-BD-dedicated controller (common digital input/output with no high-speed I/O, analog input/output, PT100 resistance temperature detector sampling, etc.)	

Series	Code	Model	Description	Picture
Dedicated PLC	01022087	H2U-8A91G-XP	PLC-H2U-8A91G-XP-H2U series general-purpose air compressor controller main module (with temperature, pressure, three-phase current, and phase sequence detection functions added based on the H2U general-purpose models)	
	01029029	H2U-8A91G-XP-SAP	PLC-H2U-8A91G-XP-SAP-H2U series general-purpose air compressor controller main module (neutral logo) (with temperature, pressure, three-phase current, and phase sequence detection functions added based on the H2U general-purpose models)	

expansion module

GL Series centralized universal module

Supports EtherCAT bus. Support communication between the expansion bus and the EtherCAT bus through a protocol conversion coupler.

- Support local expansion of H3U, H5U, AM400, and AM600
- Provides a power supply module for better anti-interference
- Can be freely combined with functional modules to form a modular I/O system adapted to field needs
- Covers a full range of expansion modules including digital, analog and temperature measurement modules
- Suitable for centralized applications with a large number of points (256 points, or 16 function modules)

32mm
90 mm
95mm

GR series distributed high-speed module

Supports EtherCAT bus. Simplified system construction and maintenance without any power supply module saves costs and time for customers.

- Provides hybrid digital modules for both input and output
- Provides high-speed pulse positioning and high-speed count modules
- Provides a rotary DIP switch to set a station number that is independent of the position
- Less wiring is required and is particularly suitable for distributed applications

57mm
90 mm
114mm

独立型   混合型

| Seamless connection with third-party standard EtherCAT masters | Stable and reliable |

- Adapted to EtherCAT masters such as Omron NX, NJ series, Beckhoff CX series, and Keyence KV series.
- Widely used by customers in the lithium battery, silicon crystal, mobile phone, and packaging industries, including AAC, Luxshare Precision, BOE, Lens Technology, and BYD.

Model Selection

220V   UPS
(power failure retention)

Centralized Universal Module

Running on an open EtherCAT bus, this type of module can be flexibly used with function modules to form a modular I/O system. The expansion bus is able to communicate with the EtherCAT bus through a protocol conversion coupler.

EtherCAT

Power supply module

EtherCAT coupler

Stopper plate
X210 cable
T024-K terminal block

Adapter board

GL10 series centralized universal expansion modules

EtherCAT

GR10 series distributed high-speed expansion modules
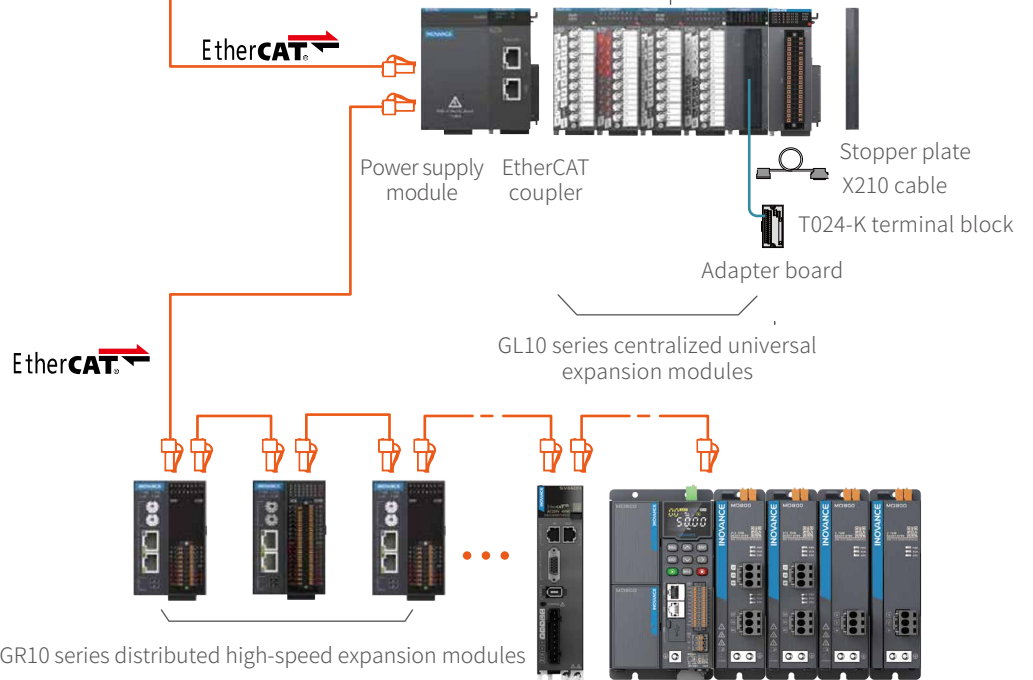
Distributed High-Speed Modulemodules

Running on an open EtherCAT bus, this type of module works in a one-stop way, with no need for additional power supply modules. The system construction and maintenance are simple, which saves costs and time of customers.

Difference between AM600 series 32-point module wiring and GL10 series 32-point module wiring

AM600-0032/3200: used with an external terminal block   **GL10-0032/3200: used with its own terminal block**

Terminal block
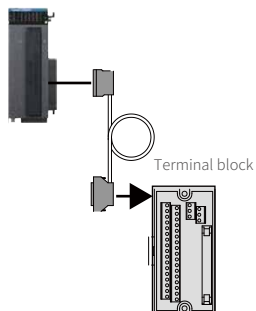
Product Specifications

Category	Model	Description	Terminal Type
GL10 series power supply module	GL10-PS2	GL10 series local expansion module, power supply module, used to power AM series PLCs or ECTA couplers	Screw
GL10 series coupler module	GL10-RTU-ECTA	EtherCAT coupler, max. 16 I/O expansion modules, used with modules including GL10-3200END and 4TC, support for auto scanning	Screw
	GL10-RTU-COP	CANopen coupler, supporting up to 16 I/O modules	
GL10 centralized expansion module (connected to ECTA coupler or PLC for I/O expansion)	GL10-1600END	GL10 series local expansion module, 16DI, 24 VDC input (source or sink)	
	GL10-3200END	GL10 series local expansion module, 32DI, 24 VDC input (source or sink)	Crimped
	GL10-0016ETN	GL10 series local expansion module, 16DO, transistor output (sink), max. current 500 mA@24 VDC	Screw
	GL10-0016ETP	GL10 series local expansion module, 16DO, transistor output (source), max. current 500 mA@24 VDC	Screw
	GL10-0016ER	GL10 series local expansion module, 16RO, rated current 2 A@250 VAC	Screw
	GL10-0032ETN	GL10 series local expansion module, 32DO, transistor output (sink), max. current 500 mA@24 VDC	Crimped
	GL10-4AD	GL10 series local expansion module, 4AD, voltage or current analog input, 16-bit resolution, 0.1% error, 2 ms sampling period	Screw
	GL10-4DA	GL10 series local expansion module, 4DA, voltage or current analog output, 16-bit resolution, 0.1% error	Screw
	GL10-4PT	GL10 series local expansion module, 4-channel RTD module, 24-bit, used with thermal resistors including PT100, PT1000, and Ni1000, 0.1°C resolution	Screw
	GL10-4TC	GL10 series local expansion module, 4-channel TC TEMP MEAS module, 24-bit, used with thermocouples including types J, K, R, and S, 0.1°C resolution	Screw
	GL10-8TC	GL10 series local expansion module, 8-channel TC TEMP MEAS module, 24-bit, used with thermocouples including types J, K, R, and S, 0.1°C resolution	Screw
	GL10-4PM	GL10 series local expansion module, 4-channel (200 kHz each) single-ended signal positioning output module (used only with H3U models)	Crimped
	GL10-2PH	GL10 series local expansion module, 2 (4 MHz each) DIFF outputs (used only with H3U models)	Crimped

Category	Model	Description	Terminal Type
GR10 series distributed expansion module (connected to the EtherCAT bus as a slave)	GR10-0808ETNE	GR10 series EtherCAT high-speed expansion module, 24 V, integration of communication and I/O, refresh at min. 500 us interval	Crimped
	GR10-1616ETNE	GR10 series EtherCAT high-speed expansion module, 24 V, integration of communication and I/O, refresh at min. 500 us interval	Crimped
	GR10-4ADE	GR10 series EtherCAT high-speed expansion module, 4-channel high-speed AI module, refresh at min. 500 us interval	Crimped
	GR10-4DAE	GR10 series EtherCAT high-speed expansion module, 4-channel high-speed AO module, refresh at min. 500 us interval	Crimped
	GR10-8TCE	GR10 series EtherCAT high-speed expansion module, 8-channel high-speed thermocouple signal detection module, refresh at min. 500 us interval	Crimped
	GR10-4PME	GR10 series EtherCAT high-speed expansion module, 4-channel (200 kHz each) single-ended signal positioning output module, refresh at min. 500 us interval	Crimped
	GR10-2HCE	GR10 series EtherCAT high-speed expansion module, 2-channel ABZ high-speed counting module, 2 probes per channel, refresh at min. 500 us interval	Crimped
	GR10-2HCE-2M	GR10 series EtherCAT high-speed expansion module, 2-channel ABZ high-speed counting module, 2 probes per channel, refresh at min. 500 us interval	Crimped
	GR10-8PBE	GR10 series EtherCAT high-speed expansion module, 1-channel ABZ high-speed counting module, 8 probes, refresh at min. 500 us interval	Crimped
	GR10-2PHE	GR10 series EtherCAT high-speed expansion module, 2 (4 MHz each) DIFF outputs, refresh at min. 500 us interval	Crimped
	GR10-4TCS-PID	GR10 series EtherCAT high-speed expansion module, AI-70482D7, 4 TC input TEMP controller	Screw
	GR10-4PTS-PID	GR10 series EtherCAT high-speed expansion module, AI-70482D7, 4 resistance input TEMP controller	Screw
	GR10-EC-6SW	GR10 series EtherCAT high-speed expansion module, 6-point-EtherCAT branch module, supporting multiple serial and parallel connections	

EOM Notice: AM600 series models except AM600-0032 and AM600-3200 have reached EOM. (The AM600 series ordering information still includes AM600-0032 and AM600-3200.)

1. Local expansion modules GL10-XXX and AM600-XXX connected to ECTA or PLC have the same electronic tag (identical software and hardware but different silkscreen), therefore they are interchangeable. For example, a GL10-1600 can directly replace an AM600-1600 module.

2. The AM600 and GR10 ECTA modules have a different identification code and default values from other individual EtherCAT (remote) modules. Therefore, they are uninterchangeable.

3. I/O hardware wiring of AM600-0032 and AM600-3200 requires adapter boards, while that wiring on GL10-0032 and GL10-3200 uses terminal blocks of the controllers. Pay attention to the wiring difference during the interchange.

4. The crimped terminal block of GR10-4PME has one more ground pin than that of AM600-4PME. Pay attention to the grounding during the interchange.

Ordering Information

Series	Code	Model	Description	Certification
GL10 centralized expansion module (connected to ECTA coupler or PLC for I/O expansion)	01440074	GL10-PS2	GL10-PS2-GL10 series PLC power supply module (used to power AM series PLCs, ECTA couplers, or COP couplers)	CE/UL
	01440073	GL10-RTU-ECTA	GL10-RTU-ECTA-series PLC EtherCAT (auto scan) COMM module-coupler	CE/UL
	01440083	GL10-RTU-COP	GL10-RTU-COP-GL10 series PLC CANopen COMM remote expansion module-coupler	CE/UL
	01440066	GL10-1600END	GL10-1600END-GL10 series PLC 16DI module	CE/UL
	01440076	GL10-3200END	GL10-3200END-GL10 series PLC 32DI module	CE/UL
	01440180	GL10-3200END-F01	GL10-3200END-F01-GL10 series PLC 32DI 0.1 ms filter module	CE/UL
	01440067	GL10-0016ETN	GL10-0016ETN-GL10 series PLC 16 digital transistor NPN output module	CE/UL
	01440069	GL10-0016ETP	GL10-0016ETP-GL10 series PLC 16 digital transistor PNP output module	CE/UL
	01440081	GL10-0016ER	GL10-0016ER-GL10 series PLC 16 digital RO module	CE/UL
	01440082	GL10-0032ETN	GL10-0032ETN-GL10 series PLC 32DO module	CE/UL
	01440080	GL10-4AD	GL10-4AD-GL10 series PLC 4AI module	CE/UL
	01440071	GL10-4DA	GL10-4DA-GL10 series PLC 4AO module	CE/UL
	01440075	GL10-4PT	GL10-4PT-GL10 series PLC 4-in RTD module	CE/UL
	01440078	GL10-4TC	GL10-4TC-GL10 series PLC 4-in TC TEMP MEAS module	CE/UL
	01440070	GL10-8TC	GL10-8TC-GL10 series PLC 8-in TC TEMP MEAS module	CE/UL
	01440129	GL10-4PM	GL10-4PM-GL10 series PLC 4-axis positioning output local module (H3U/H3S only)	CE/UL
	01440121	GL10-2PH	GL10-2PH-GL10 series PLC 2-channel high-speed DIFF pulse output function expansion module (H3U/H3S only)	CE/UL

Series	Code	Model	Description	Certification
GR10 series distributed expansion module (connected to the EtherCAT bus as a slave)	01440077	GR10-0808ETNE	GR10-0808ETNE-GR10 series PLC 8-in 8-out EtherCAT slave module	CE/UL
	01440079	GR10-1616ETNE	GR10-1616ETNE-GR10 series PLC 16-in 16-out EtherCAT slave module	CE/UL
	01440298	GR10-1616ETNE-T01	GR10-1616ETNE-GR10 series PLC 16-in 16-out EtherCAT slave module (0.1 ms input filter)	CE/UL CE/UL
	01440058	GR10-4ADE	GR10-4ADE-GR10 series medium-sized PLC 4AI EtherCAT slave module	CE/UL
	01440060	GR10-4DAE	GR10-4DAE-GR10 series medium-sized PLC 4AO EtherCAT slave module	CE/UL
	01440059	GR10-8TCE	GR10-8TCE-GR10 series medium-sized PLC EtherCAT slave module (8 TC inputs)	CE/UL
	01440068	GR10-4PME	GR10-4PME-GR10 series PLC EtherCAT slave module (4 positioning outputs)	CE/UL
	01440072	GR10-2HCE	GR10-2HCE-GR10 series PLC 2-channel ABZ high-speed counting EtherCAT slave module-2M counter	CE/UL
	01440127	GR10-8PBE	GR10-8PBE-GR10 series PLC 8-channel probe capture 1-channel ABZ high-speed counting EtherCAT slave module	CE/UL
	01440120	GR10-2PHE	GR10-2PHE-GR10 series PLC 2-channel high-speed DIFF pulse output EtherCAT slave remote expansion module	CE
	72030017	GR10-4TCS-PID	GR10-4TCS-PID-GR10 series PLC AI-70482D7-4 TC input TEMP controller	-
	72030024	GR10-4PTS-PID	GR10-4PTS-PID-GR10 series PLC AI-70482D7-4 resistance input TEMP controller	-
	01440135	GR10-EC-6SW	GR10-EC-6SW-GR series 6-EtherCAT branch module	CE
	01440177	GR10-1616ERE-BD	GR10 series PLC 16-in 16RO EtherCAT slave board	

Series	Code	Model	Description	Certification	
AM600 local expansion module	01440023	AM600-3200END	AM600 series 32-in module (used with X210-5-0.5/2, T024-K): terminal block wiring	CE	Used with adapter boards (if necessary on site)
	01440025	AM600-0032ETN	AM600 series 32-out module (used with X210-5-0.5/2, T024-K): terminal block wiring	CE	
AM600 expansion module accessories	15300119	X210-5-0.5	40-pin outgoing cable-0.5 m (used by AM600-0032ETN and AM600-3200END modules)	CE	
	15300193	X210-5-2	40-pin outgoing cable-2.0 m (used by AM600-0032ETN and AM600-3200END modules)	CE	
	15020452	T024-K	AM600 32-point module terminal block (used by AM600-0032ETN and AM600-3200END modules)	CE	
	15050180	FCN-40	40-pin terminal, used when I/O is rarely used (used by AM600-0032ETN and AM600-3200END modules)	CE	

IT7000 Series

High-performance HMI, intelligent process UI platform

- Exquisite information display and smooth operation
- Cover applications from low-end to high-end
- Industry-level manufacturing technology
- Built-in InoTouchPad configuration software with flexible configuration functions and ease of use
- Abundant image resources, programmable UI style, and perfect operation UI
- Support for serial port, Ethernet, and WIFI-based stand-alone and multi-unit network communication
- Support for major PLC and AC drive products, servo communication protocols, and Modbus and ModbusTCP standard protocols
- The HMI screen can be cast to a mobile device such as mobile phone through VNC
- With highly extendable programming interfaces, advanced users can program their own plug-ins and dedicated communication protocols to meet their industry-specific needs

Attractive and powerful

- High display-to-body ratio
- Slim and light
- 15" aluminum alloy case
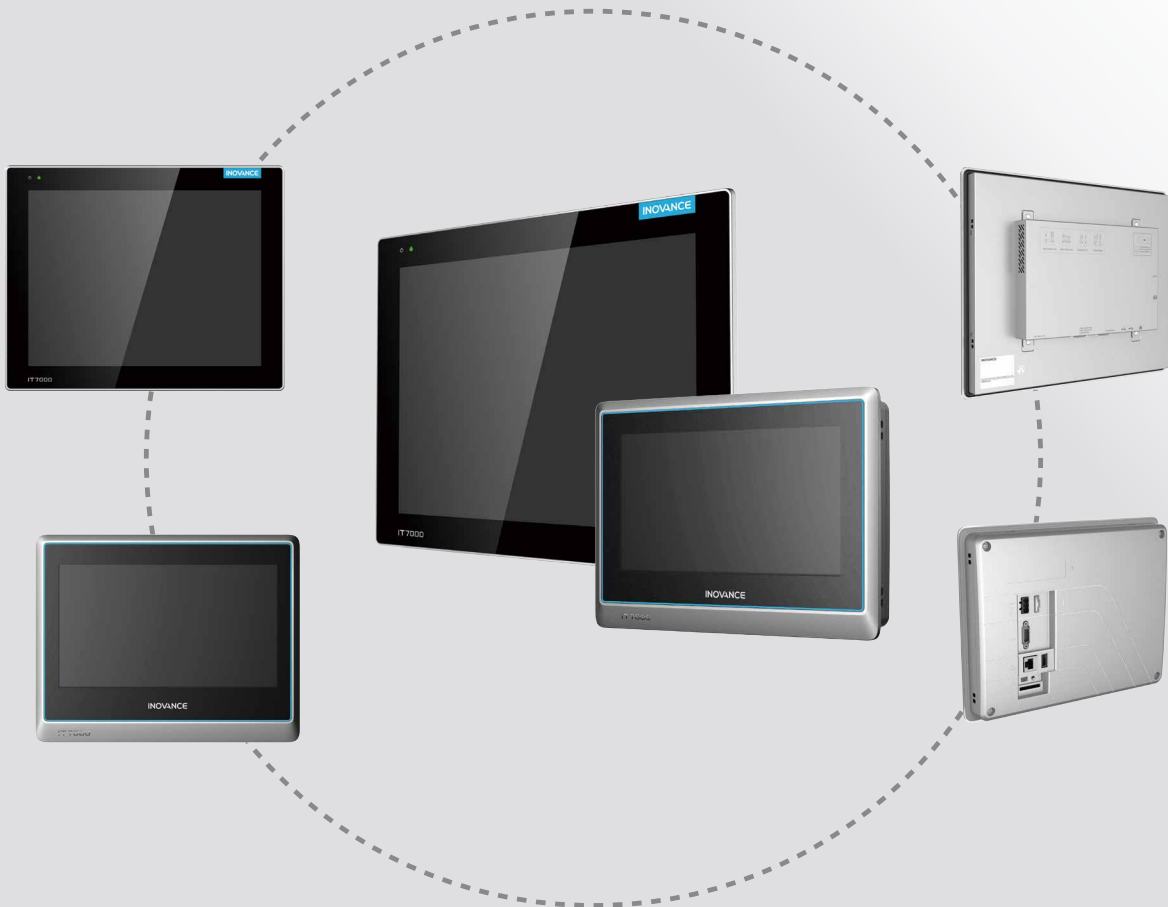
Model

IT7070T/IT7070S	IT7070E	IT7100E/IT7100S	IT7150E
7.0"	**7.0"**	**10.1"**	**15.0"**
T: standard S: economical	E: with Ethernet interface	E: with Ethernet interface S: cost-effective	E: with Ethernet interface

Hardware Specifications

Model	IT7070E	IT7070T	IT7070S	IT7100E	IT7100S	IT7150E
Display size	7.0"			10.1"		15.0"
Resolution	800*480			1024*600		1024*768
Dimensions L * W * D (mm)	200*146*35			271*213*36		367.8*294.8*53
CPU	Cortex A8 600MHz					Cortex A8 1Ghz
RTC	✓	✓	✓	✓	✓	✓
DRAM	128MB			256MB DDR3	128MB DDR3	256MB DDR3
Flash	128MB			256MB	128MB	256MB
Brightness (cd/ ㎡)	350			350		300
Display Color	24-bit true color			24-bit true color		24-bit true color
Backlight	LED			LED		LED
Backlight service life	35000hrs			30000hrs		50000hrs
SD card interface	✓	-	-	✓	-	✓
USB drive interface	USB 2.0 interface * 1					
USB download interface	Mini USB interface * 1					
Ethernet interface	✓	-	-	✓	✓	✓
Serial port	COM1 （RS422/RS485） COM2（RS232) COM3（RS485)	COM1 （RS422/RS485) COM2（RS232)	COM1 （RS422/RS485)	COM1 （RS422/RS485） COM2（RS232) COM3（RS485)	COM1 （RS422/RS485)	COM1 （RS422/RS485） COM2（RS232) COM3（RS485)
Panel IP rating	Front panel IP65, back cover IP20			Front panel IP65, back cover IP20		Front panel IP65 Back cover IP20
product code	01450039	01450030	01450038	01450036	01450037	01450028

Various Flexible Networking Solutions

- PLC communication solutions of Inovance and other major manufacturers
- Communication between field devices, remote devices and mobile devices through Ethernet and WIFI
- OPC UA-based information system
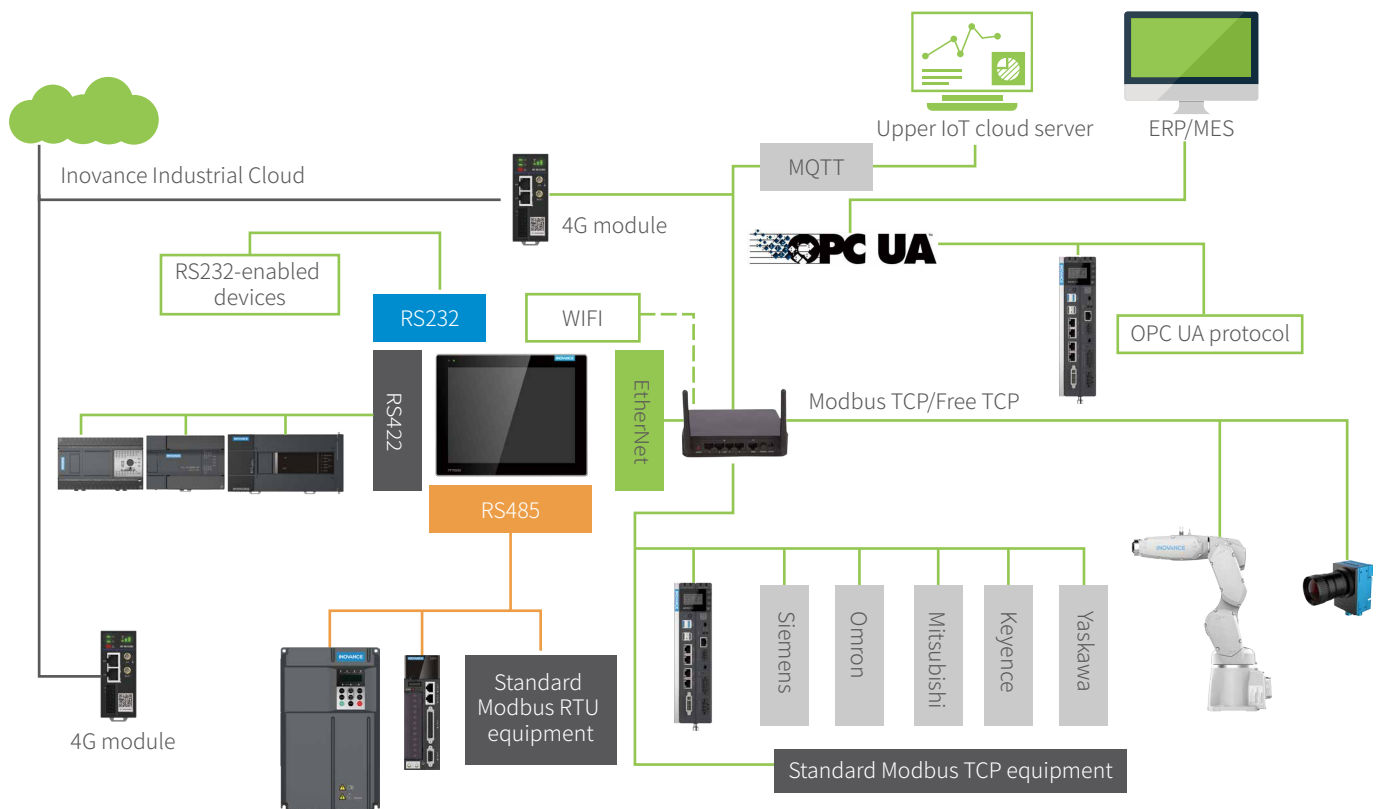
Protocol	Description
Inovance	All PLC, servo, AC drive, and HMI products
Siemens	Supports s7-200, smart200, s7-1200, s7-1500, s7-300 (supporting S7 Ethernet protocol, PPI is in development)
Mitsubishi	FX1N/FX2N/FX3U/FX3G/FX5U, Q/L series (supporting MC Ethernet protocol and FX computer link protocol)
Omron	CP series, CJ series, NX series, NP series, and NJ series (supporting FINS serial port and Ethernet protocol, EIP is in development)
Panasonic	FP series and FP2 series (supporting serial port protocol, Ethernet is in development)
Yaskawa	CP series, MP2300 (in development)
Keyence	KV series (in development)
Modbus	Standard Modbus equipment
OPC UA	OPC UA Client; Server is not supported
MQTT	Supports standard MQTT protocol
Free communication protocol	Inovance PLCs (H1U/H2U/H3U/H5U) that support free communication protocol, and other third-party devices; supports client and server

Cross-Platform Configuration Software

The full-featured InoTouchPad, which is used to build a small SCADA host controller system, can run on PCs and IPCs, as well as traditional embedded Linux HMI platforms.

Flexible expansion

- Graphics, text, data objects can be freely configured into various functions
- Expandable software platform allows users to import customized controls
- Canvas control script to draw graphics freely
- Screen can be cast to a mobile device (mobile phone or tablet) through VNC
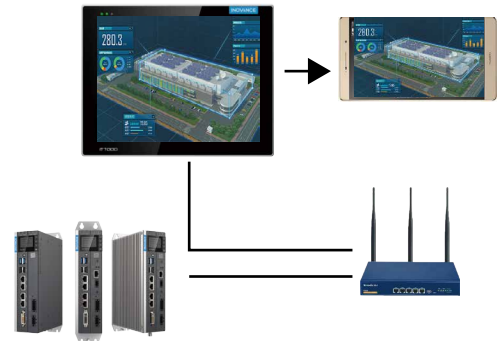
Comfortable interaction

- Support for input and display of all standard characters
- Support for import of most vector and raster images
- 中文输入
- Support for multiple visualizations of statistical data
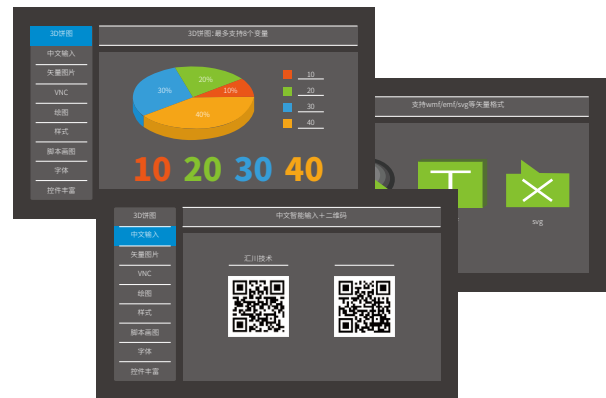
Feature-rich

- The G code program can be edited and downloaded to the controller for execution
- Trend chart and oscilloscope functions allow for sampling of the continuous waveform of the slave computer
- Historical data recording allows for saving specified records in an HMI local or extended USB drive or SD card. You can check and search for these records through the data view, and print them by the printer
- The recipe function allows manipulation of multiple nameable recipes

Ordering Information

IT7000 Series High-Performance General-Purpose HMI

Series	Code	Model	Description	Certification
IT7000 series high-performance general-purpose HMI	01450038	IT7070S	HMI-IT7070S-IT7000 series 7'' economical touch screen	CE
	01450030	IT7070T	HMI-IT7070T-IT7000 series 7'' standard touch screen	CE
	01450039	IT7070E	HMI-IT7070E-IT7000 series 7'' high-performance touch screen	CE
	01450037	IT7100S	HMI-IT7100S-IT7000 series 10'' economical touch screen	CE
	01450036	IT7100E	HMI-IT7100E-IT7000 series 10'' standard touch screen	CE
	01450028	IT7150E	HMI-IT7150E-IT7000 series 15'' touch screen	CE
	72030015	SJK1149-E-61010	IT7000 configuration software dongle	-

IT7000 Series Cable Selection

Series	Code	Model	Cable Port	Matching HMI Models
IT7000 series cable accessory	1504AX53	IT7-H3U-CAB (cable length: 3 m)	**Usage:** Direct communication between RS422 COM1 of IT7000 series (except IT7150E) HMI and RS422 round communication ports of Inovance H1U/H2U/H3U series PLC or RS422 round communication ports of Mitsubishi FX1N/2N/3U/3G **Port description:** HMI end: DB9 female (RS422) PLC end: MD8 round male (RS422)	T7000 series models (except IT7150E) Supported: IT7070S/IT7070T/IT7070E IT7100S/IT7100E Not supported: IT7150E, IT6000 series models (Hardware ports except the program download port of IT7150E use the pin definitions same as those of IT6000. The communication cable IT5-H2U-CAB is applicable both to IT6000 and IT7150E.)
	15042148	H2U-232-CAB (cable length: 3 m)	**Usage:** This type of cables are RS232-to-RS422 cables used to directly connect RS232 COM2 of IT7000 series HMI to RS422 round communication ports of Inovance H1U/H2U/H3U series PLC or RS422 round communication ports of Mitsubishi FX1N/2N/3U/3G. **Port description:** HMI end: DB9 female (RS232) PLC end: MD8 round male (RS422)	IT7000: RS232 models Supported: IT7070T/IT7070E/IT7100E/IT7150E Not supported: IT7070S/IT7100S
	15041200	H2U-USB-CAB (cable length: 1.5 m)	**Usage:** Downloading user programs of IT7000 series touch screens on a PC **Port description:** PC end: USB 2.0/3.0 interface HMI end: Mini-USB interface	IT7000 series models

Series
Economical configuration: 800 x 480, no SD card port, no Ethernet, no RS232 serial port, no panel power indicator COM1 (RS422/RS485) USB x 1
Standard configuration: 800 x 480, no SD card port, no Ethernet COM1 (RS422/RS485) COM2 (RS232) USB x 1
Advanced configuration: 800 x 480, Ethernet COM1 (RS422/RS485) COM2 (RS232) COM3 (RS485) USB x 1
Economical configuration: 1024 x 600, Ethernet COM1 (RS422/RS485) USB x 1
Advanced configuration: 1024 x 600, Ethernet COM1 (RS422/RS485) COM2 (RS232) COM3 (RS485) USB x 1
Advanced configuration: 1024 x 768, resistive screen, Ethernet COM1 (RS422/RS485) COM2 (RS232) COM3 (RS485) USB x 1

Matching PLC Models	Note for Use	Picture
1. Inovance H1U/H2U/H3U: RS422 round communication port 2. Mitsubishi FX1N/2N/3U/3G: RS422 round communication port	This type of cables are used to connect RS422 COM1 ports of IT7000 series touch screens. to Inovance H1U/H2U/H3U RS422 communication ports or Mitsubishi FX1N/2N/3U/3G RS422 communication ports.	
1. Inovance H1U/H2U/H3U: RS422 round communication port 2. Mitsubishi FX1N/2N/3U/3G: RS422 round communication port	This cable is not recommended. Instead, customers are advised to use customized RS232-to-RS422 cables that can be purchased online. For the details about the pin definitions, see the user manual. 1. For orders already placed, keep the current device communication solution. If the cables have quality problems in use, contact the product line for replacement, or change the cable to IT7-H3U-CAB in the current and subsequent orders. If the cables are changed in orders, modify the device communication scheme in a timely manner. 2. This cable connects to RS232 COM2 of IT7000 series touch screens, while IT7-H3U-CAB connects to RS422 COM1 of IT7000 series touch screens. Pay attention to the protocol difference in the new communication solution.	
	This type of cables connect to IT7000 Mini-USB ports for downloading and are incompatible with Type-B USB ports of IT6000 series.	

IT6000 Series

General-purpose HMI

- 7" model: TFT display, 800 * 480, 65535 colors
- 10" model: TFT display, 1024 * 600, vivid display
- 32 MB user program
- 3 serial ports, 2 USB and LAN interfaces
- The serial port supports standard ModbusRTU master/slave communication protocol
- The proprietary Qlink protocol is automatically enabled for communication with Inovance PLCs
- The Ethernet port supports ModbusTCP master/slave communication protocol
- Direct communication with Inovance PLCs and servo systems
- Built-in major PLC communication protocols of Siemens, Mitsubishi, Omron, Delta and Panasonic
- Process data storage and HMI and PLC program upgrade with a USB drive

H3U monitoring protocol 232-to-422 cable

H3U monitoring protocol 232-to-422 cable

H3U monitoring protocol

RS232

RS422

RS485

EtherNet

GL10 TCP

H3U Modbus TCP

HMI TCP

Standard Modbus TCP device

H2U monitoring protocol

Standard Modbus RTU device
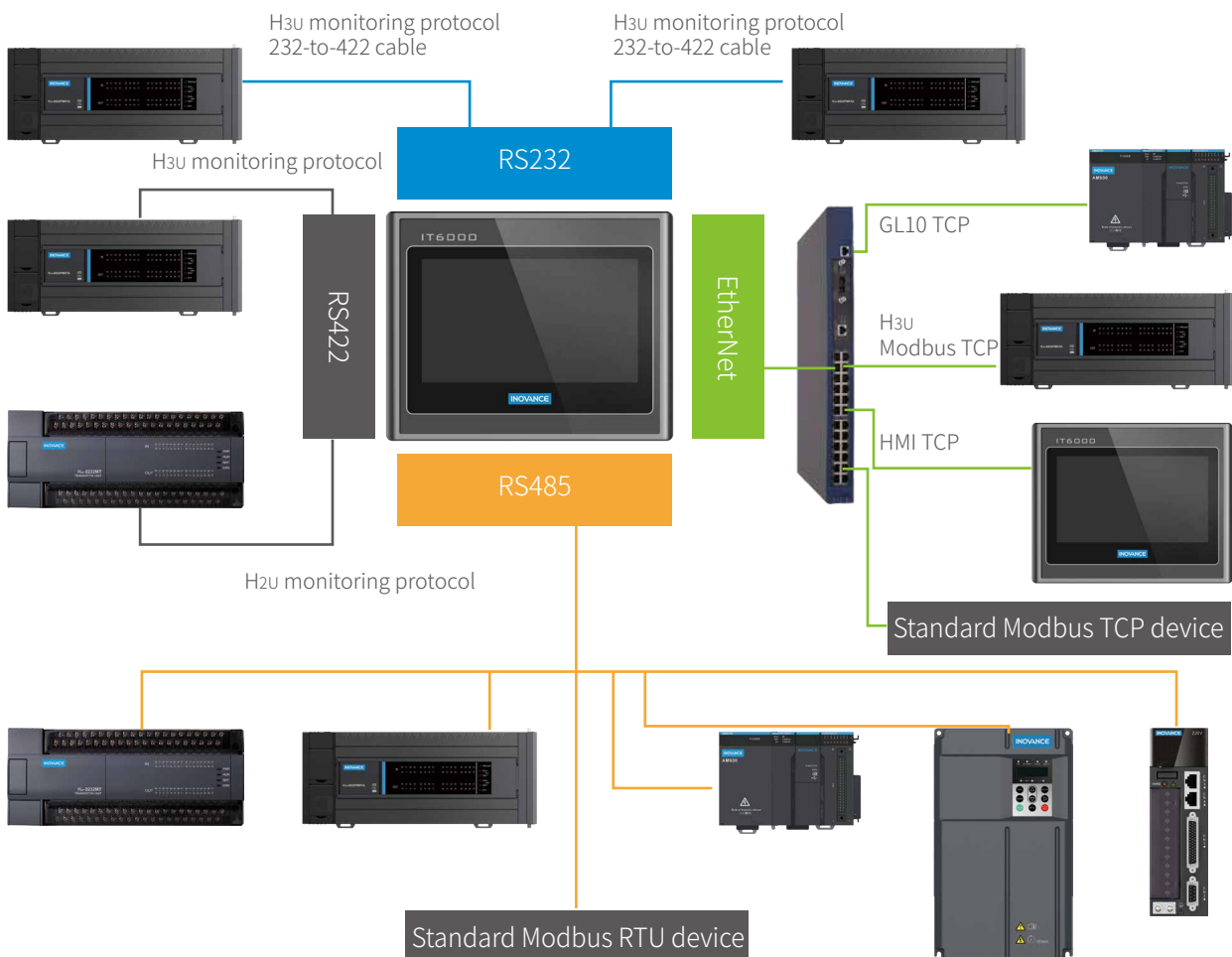
Multi-dimensional networking

- Supports communication networking solutions with all PLCs, AC drives, and servo drives of Inovance
- Supports standard Modbus and ModbusTCP devices, can be either a master or slave
- Supports PLCs of major manufacturers such as Siemens, Mitsubishi, Omron, Delta, and Panasonic

Import and export

- Recipe data
- Historical data
- Sampling data
- Log
- DXF data

User program/firmware download and upgrade	Recipe data	Import and export of historical data alarm records

Sampling data alarm record storage	Log export	DXF data import

Hardware Specifications

Model	IT6100E	IT6070E	IT6070T	IT6043T
Display size	10.1"	7.0"		4.3"
Resolution	1024*600	800*480		480*272
Dimensions L * W * D (mm)	271*213*40	200*146*42		128*102*35
CPU	Cortex A8 600Mhz			
RTC	✓			
DRAM	128MB DDR3			
Flash	128MB			
Brightness (cd/m^2)	350	300		400
Display Color	24-bit true color			
Backlight	LED			
Backlight service life	30000hrs			
Recipe memory	256kB			
SD card interface	✓	✓	✓	-
USB type A port	✓	✓	✓	-
USB type B port	✓	✓	✓	✓
Ethernet interface	✓	✓	-	-
Serial port	COM1（RS422/RS485）COM2(RS232) COM3(RS485)	COM1（RS422/RS485）COM2(RS232) COM3(RS485)	COM1（RS422/RS485）	COM1（RS422/RS485）COM2(RS232) COM3(RS485)

Ordering Information

IT6000 Series General-Purpose HMI

Series	Code	Model	Description	Certification
IT6000 Series General-Purpose HMI	01450012	IT6043T	HMI-IT6043T-IT6000 series 4.3'' standard touch screen	-
	01450001	IT6070T	HMI-IT6070T-IT6000 series 7'' standard touch screen	CE
	01450002	IT6070E	HMI-IT6070E-IT6000 series 7'' high-performance touch screen	CE
	01450005	IT6070EG-IOT	HMI-IT6070EG-IOT-IT6000 series 7'' IoT touch screen	-
	01450007	IT6100E	HMI-IT6100E-IT6000 series 10'' touch screen	CE
	01450019	IT6070TS	HMI-IT6070TS-IT6000 series 7'' simplified touch screen	-

Note: IT6000 series is expected to be replaced by IT7000 series within two years. It is recommended to choose IT7000 series.

IT6000 Series Cable Selection

Series	Code	Model	Cable Port	Matching HMI Models
IT6000 series cable	15041140	IT5-H2U-CAB (cable length: 3 m)	**Usage:** This type of cables directly connect RS422 COM1 of IT6000 series or IT7150E HMI to RS422 round communication ports of Inovance H1U/H2U/H3U series PLC or RS422 round communication ports of Mitsubishi FX1N/2N/3U/3G. **Port description:** HMI end: DB9 male (RS422) PLC end: MD8 round male (RS422)	IT6000: RS232 models IT7000: IT7150E
	15042148	H2U-232-CAB (cable length: 3 m)	**Usage:** This type of cables are RS232-to-RS422 cables used to directly connect RS232 COM2 of IT6000 series HMI to RS422 round communication ports of Inovance H1U/H2U/H3U series PLC or RS422 round communication ports of Mitsubishi FX1N/2N/3U/3G. **Port description:** HMI end: DB9 female (RS232) PLC end: MD8 round male (RS422)	IT6000: RS232 models
	15041123	IT5-USB-CAB (cable length: 2 m)	**Usage:** Downloading user programs of IT6000 series touch screens on a PC **Port description:** PC end: USB 2.0/3.0 interface HMI end: Type-B USB square interface	IT6000 series models

COM Ports	
COM1(485/422) COM2(232) COM3(485)	Only one DB9 female
COM1(485/422)	Only one DB9 female
COM1(485/422) COM2(232) COM3(485)	2 DB9 sockets (DB9 male: 485/422; DB9 female: 232)
IoT	
COM1(485/422) COM2(232) COM3(485)	2 DB9 sockets (DB9 male: 485/422; DB9 female: 232)

Matching PLC Models	Note for Use	Picture
1. Inovance H1U/H2U/H3U: RS422 round communication port 2. Mitsubishi FX1N/2N/3U/3G: RS422 round communication port	This type of cables connect RS422 COM1 ports of IT6000 series to RS422 communication ports of Inovance H1U/H2U/H3U or RS422 communication ports of Mitsubishi FX1N/2N/3U/3G. The COM1 port of IT6000 is female, and the HMI end of the cable is male. Therefore, directly connect the cable to COM1. This cable is incompatible with IT7000 for the following reasons: 1. The COM port of IT7000 is male. The HMI end of this cable is male too. The cable cannot be directly connected to the COM port. 2. IT7000 COM1 has a different wiring sequence from that of IT6000.	
1. Inovance H1U/H2U/H3U: RS422 round communication port 2. Mitsubishi FX1N/2N/3U/3G: RS422 round communication port	The product code has been registered but this scheme has risks: Expensive+chip damage due to long-time running+long lead time This cable is not recommended. Instead, customers are advised to use customized RS232-to-RS422 cables that can be purchased online. For the details about the pin definitions, see the user manual.	
	This type of cables connect to IT6000 Type-B USB ports for downloading and are incompatible with Mini-USB ports of IT7000 series.	

InoProShop

Suitable for intelligent controllers and medium-sized PLCs

Auto scan
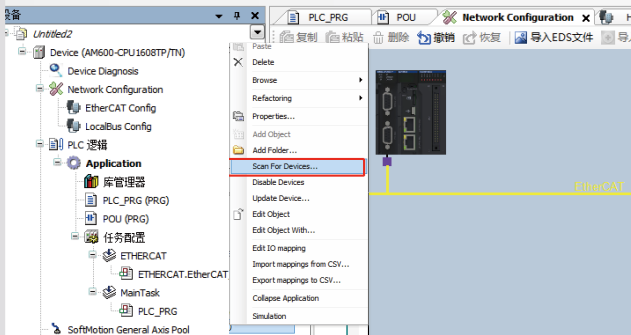
Station alias
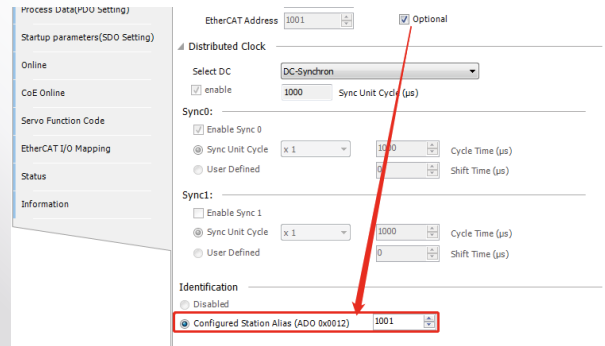
One-key export and import of axis parameters
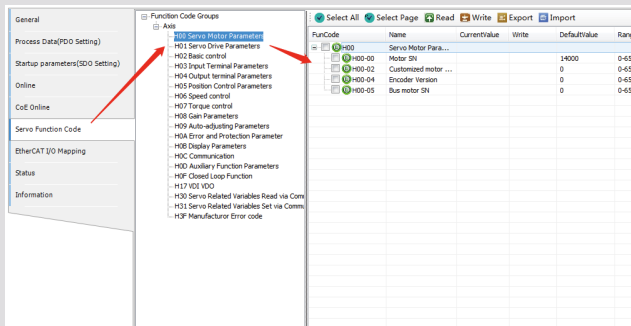
Oscilloscope
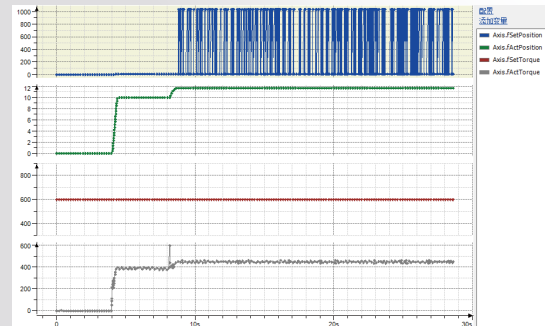
Cross find
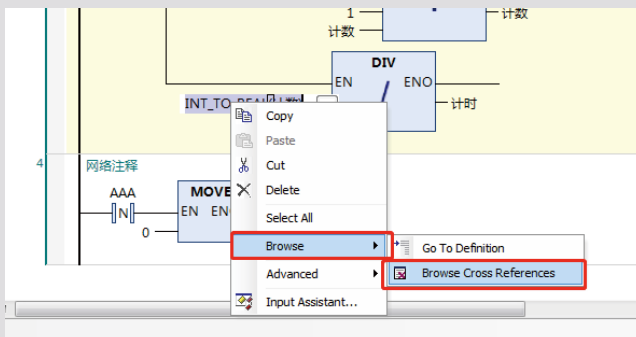
Online modification
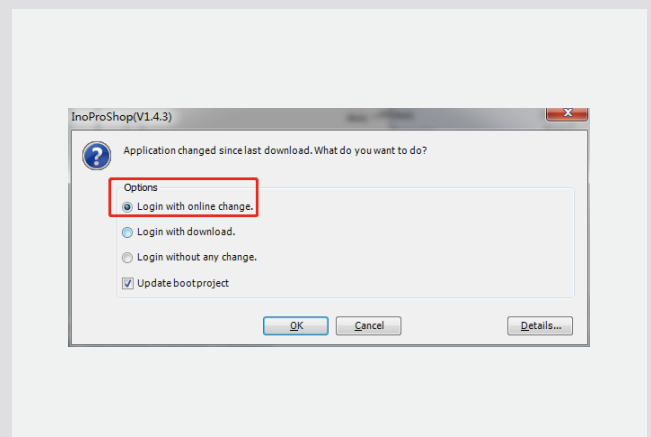
Communication configuration wizard
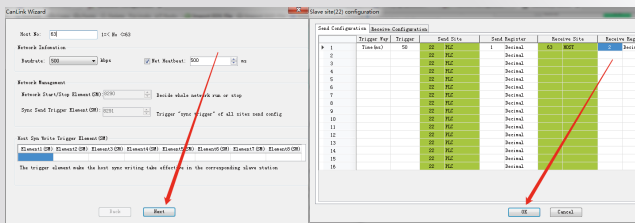
Built-in industry process libraries
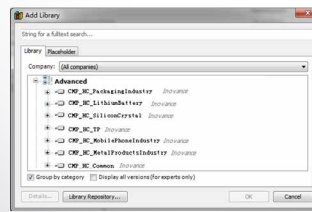
Variable speed algorithm

Rewinding and unwinding algorithm

Web guiding algorithm

Tension control algorithm

High-precision color mark tracking algorithm

Multi-axis synchronization algorithm

Support for batch alias renaming, batch operation of servo parameters, batch upgrade of the slave XML file, and batch disabling device functions
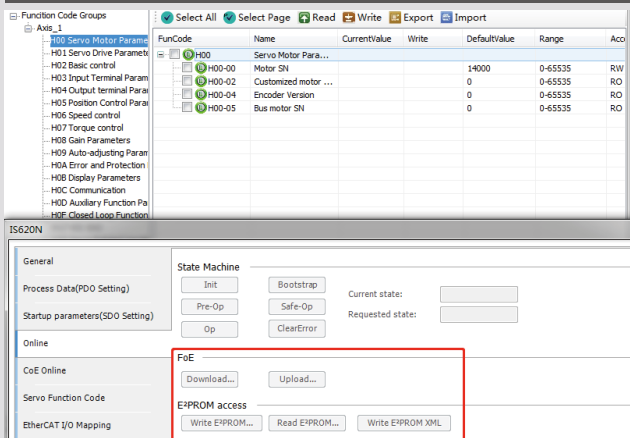
InoProShopTool
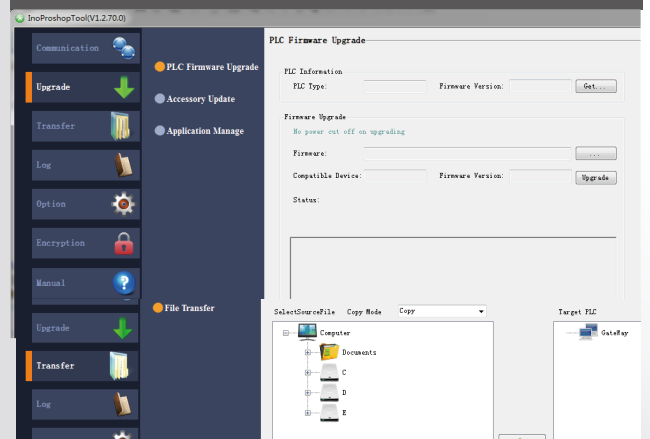
Can be installed separately, and can be used for upgrading PLC firmware and user programs and copying files on a terminal device.

Easy to use ladder diagram

Selection

Copy and paste

Manual marking

Function block association

Drag and drop

One-button function
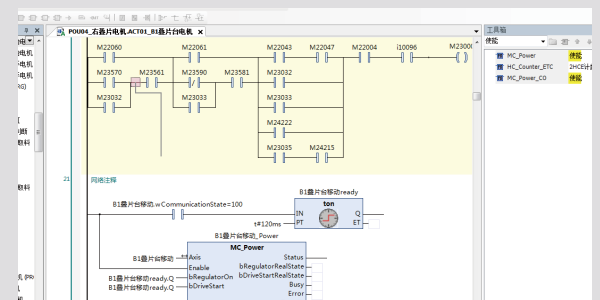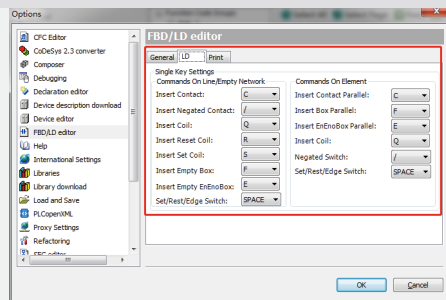
AutoShop

Suitable for small PLCs

Communication configuration wizard

Convenient configuration for serial communication, CANlink3.0, Modbus, and Ethernet
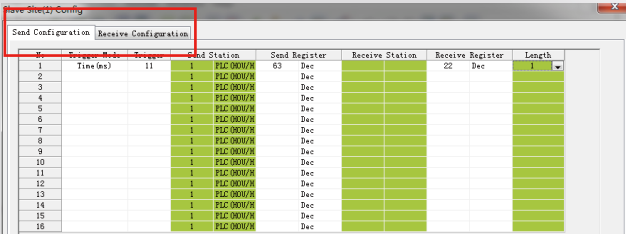
Online modification
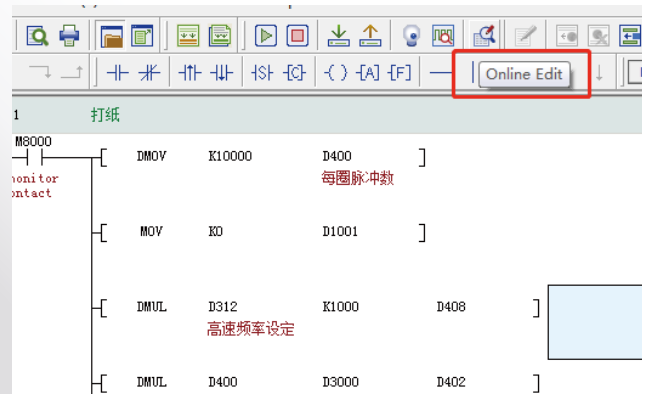
Import and export of comments
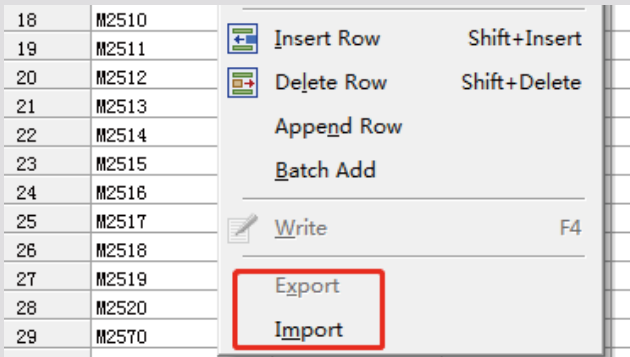
Easy to use network notes
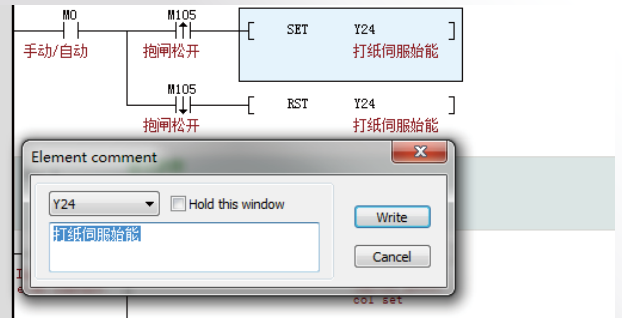
Oscilloscope (timing diagram + trajectory diagram)
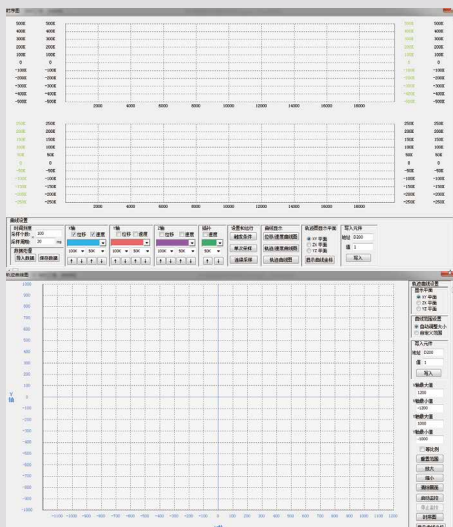
Cross search
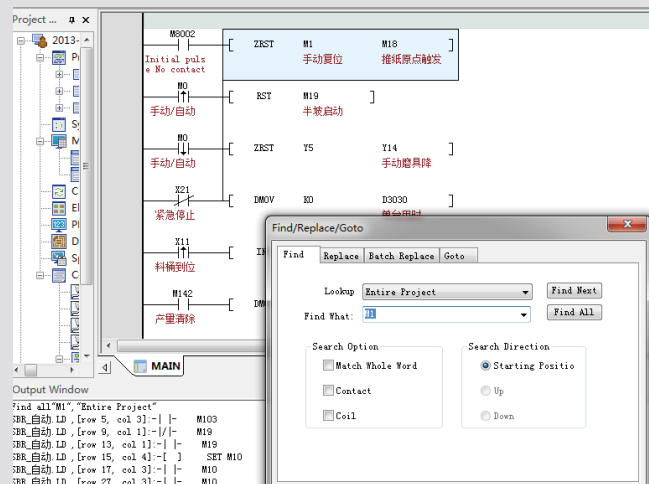
Symbolic addressing

Complete instruction set

* Note: The following 6 features are only available in H5U small PLCs

Support for FB/FC

Insertion of graphical block instructions in ladder diagram

User-defined variables

Graphical online commissioning interface

Smart suggest

Direct user-defined variable communication with IT7000 touch screen

InoTouchPad

Suitable for IT7000 series HMIs

Full configuration programming	Configuration by dragging variables (support for third-party customization + flat design)	DIY controls (support for JavaScript)	Support for all major languages	VNC
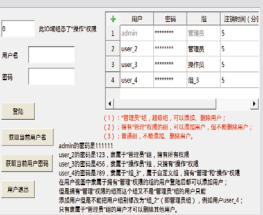
Alarm event	Recipe management	User permissions	Style customization	Gallery

Table editing, and import and export of excel and csv files

Report: supports report configuration, alarm/recipe printing, and report printing and PDF export

Alarm, recipe, user management, operation log

Side-by-side editing control of G-codes and graphical trajectory	G-code monitoring control	Trajectory monitoring control	Trajectory monitoring control
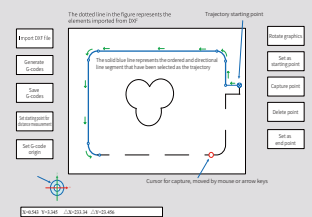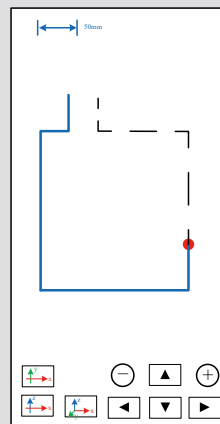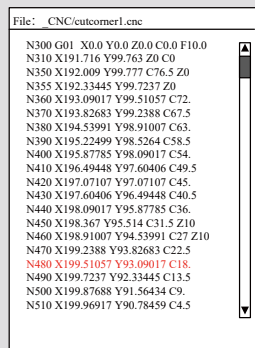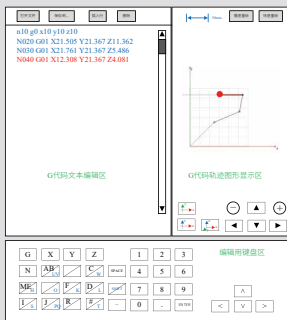
InoTouchEditor

Suitable for IT6000 series HMIs

Status display and control	Value/character display and control	Table
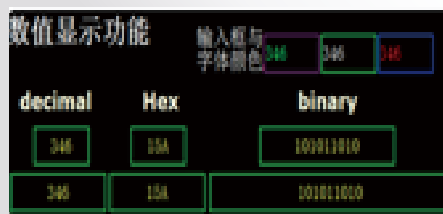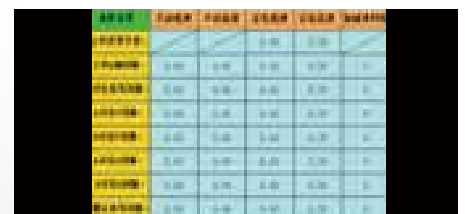
Window control	Animated bar graph instrument	Transmission and backup of recipes and data
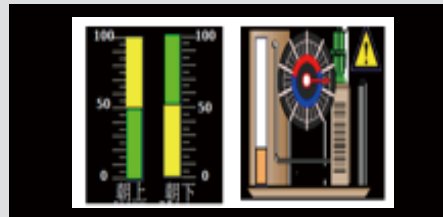
Curve group and trend graph	Event warning	Vector graphics and pictures
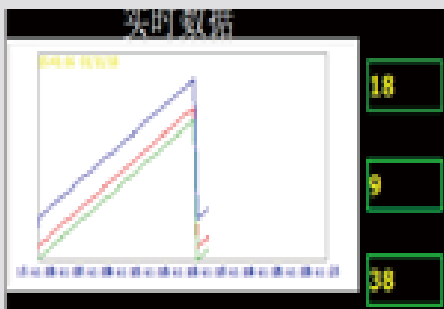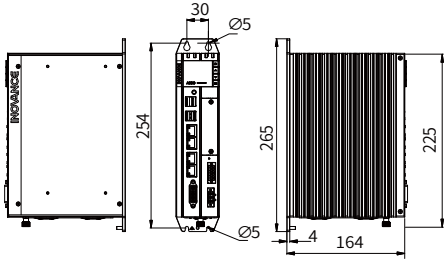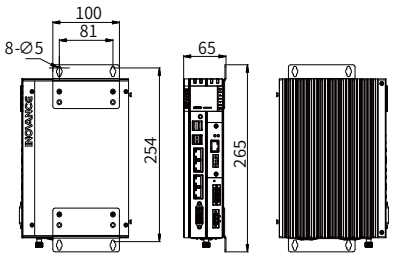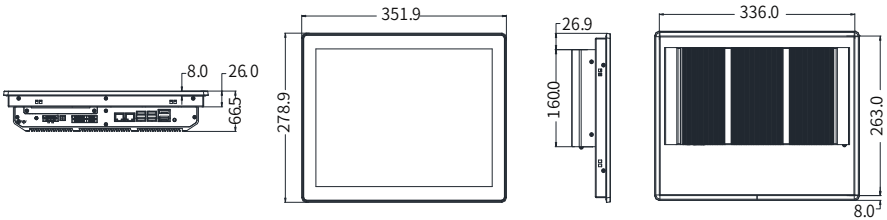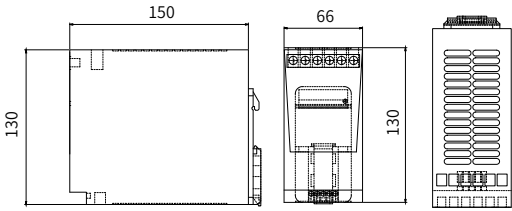
Dimensions
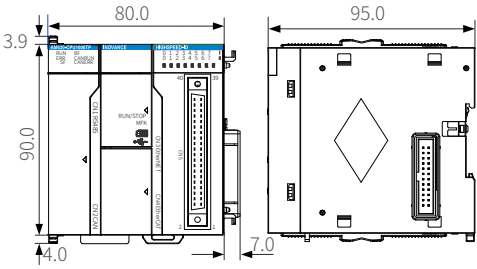
Intelligent Controllers

Series	Model	Rear Earhook	Side Earhook
AC800 series booksize high-performance intelligent controller	AC810-0122-U0R0		
	AC801-0221-U0R0		
	AC802-0222-U0R0		
	AC812-0322-U0R0		

Series	Model	Dimensions
AP700 series display and intelligent controller integration	AP702-0221-U0R0	
	AP703-0221-U0R0	

Series	Model	Dimensions
24VDC BUFFER 5AS	UPS	

Medium-Sized PLC

Series	Model	Dimensions
AM600 series general-purpose medium-sized PLC	AM600-CPU1608TP	
	AM600-CPU1608TN	
AM400 series economical medium-sized PLC	AM401-CPU1608TP	
	AM401-CPU1608TN	
	AM402-CPU1608TP	
	AM402-CPU1608TN	
	AM403-CPU1608TN	

Small PLC

Series	Model	Dimensions
H5U series EtherCAT bus high-performance small PLC	H5U-1614MTDR	

Mounting hole Φ4.50x4
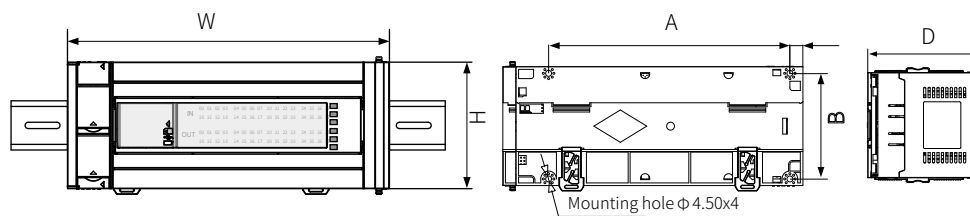
Series	Model	W (mm)	H (mm)	D (mm)	A (mm)	B (mm)
H3U series CAN bus high-performance small PLC	H3U-1616MT-XP	180	90	90	135	80
	H3U-1616MR-XP					
	H3U-2416MT-XP					
	H3U-2416MR-XP					
	H3U-3624MT	230	90	95	185	80
	H3U-3624MR					
	H3U-3232MT					
	H3U-3232MR					

Mounting hole Ø5×4
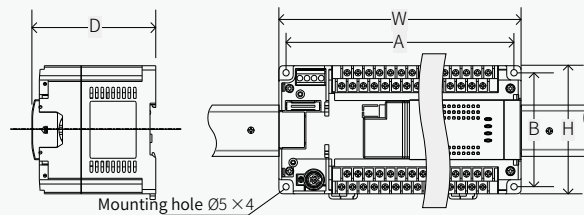
Series	Model	W (mm)	H (mm)	D (mm)	A (mm)	B (mm)
H2U series general-purpose small PLC	H2U-1010MT-XP	130	90	88	120	80
	H2U-1010MR-XP					
	H2U-1616MT-XP	170			160	
	H2U-1616MR-XP					
	H2U-2416MT-XP	170			160	
	H2U-2416MR-XP					
	H2U-3624MT-XP	220			210	
	H2U-3624MR-XP					
	H2U-3232MT-XP	220			210	
	H2U-3232MR-XP					
	H2U-3232MTP					
	H2U-4040MT-XP	285			275	
	H2U-4040MR-XP					
	H2U-6464MT-XP	350			340	
	H2U-6464MR-XP					

Dimensions
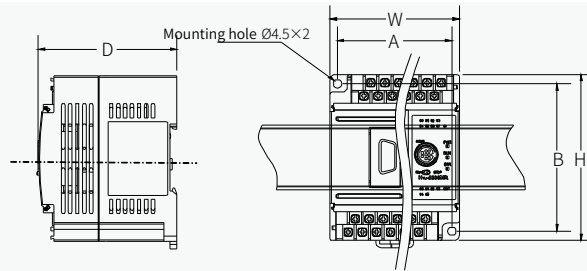
Small PLC

Series	Model	W (mm)	H (mm)	D (mm)	A (mm)	B (mm)
H1U series simplified small PLC	H1U-0806MT-XP	70	90	75	62	80
	H1U-0806MR-XP	70			62	
	H1U-1208MT-XP	93			83	
	H1U-1208MR-XP	93			83	
	H1U-1410MT-XP	93			83	
	H1U-1410MR-XP	93			83	
	H1U-1614MT-XP	110			100	
	H1U-1614MR-XP	110			100	
	H1U-2416MT-XP	133			123	
	H1U-2416MR-XP	133			123	
	H1U-2820MT-XP	148			138	
	H1U-2820MR-XP	148			138	
	H1U-3624MT-XP	179			169	
	H1U-3624MR-XP	179			169	
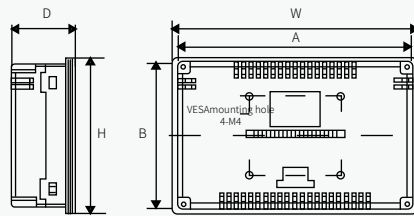
Series	Model	W (mm)	H (mm)	D (mm)	A (mm)	B (mm)
H0U series display and controller integrated multi-function small PLC	H0U-0808MR-XP	200	146	42	191	137
	H0U-0808MRT-XP					
	H0U-0808MR-XP-6AT					
	H0U-0808MRT-XP-6AT					
	H0U-1616MR-XP					
	H0U-1616MRT-XP					
	H0U-1616MR-XP-6AT					
	H0U-1616MRT-XP-6AT					
	H0U-1616-XP-CAN					

Mounting hole Φ4.50x4
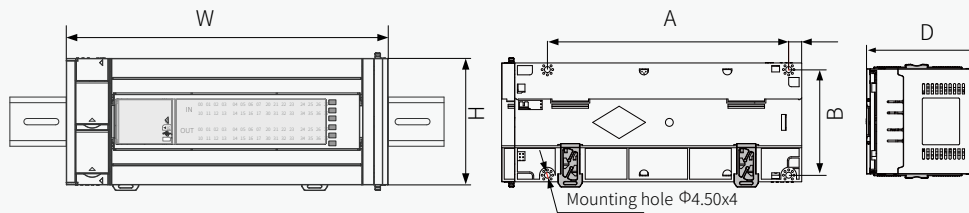
Series	Model	W (mm)	H (mm)	D (mm)	A (mm)	B (mm)
H3S series economical high-performance small PLC	H3S-1616MT-XP	180	90	90	135	80
	H3S-1616MR-XP					
	H3S-2416MT-XP					
	H3S-2416MR-XP					
	H3S-3624MT	230	90	95	185	80
	H3S-3624MR					
	H3S-3232MT					
	H3S-3232MR					

Mounting hole Ø5×4
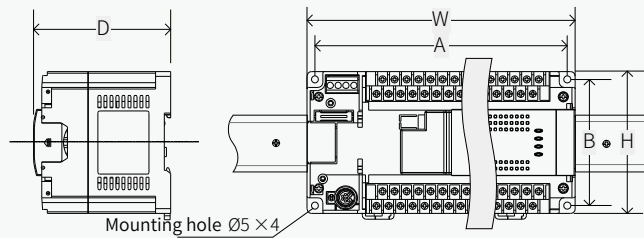
Series	Model	W (mm)	H (mm)	D (mm)	A (mm)	B (mm)
H2S series economical general-purpose small PLC	H2S-1010MT-XP	130	90	88	120	80
	H2S-1010MR-XP					
	H2S-1616MT-XP	170			160	
	H2S-1616MR-XP					
	H2S-2416MT-XP	170			160	
	H2S-2416MR-XP					
	H2S-3624MT-XP	220			210	
	H2S-3624MR-XP					
	H2S-3232MT-XP	220			210	
	H2S-3232MR-XP					
	H2S-4040MT-XP	285			275	
	H2S-4040MR-XP					
	H2S-6464MT-XP	350			340	
	H2S-6464MR-XP					

Dimensions
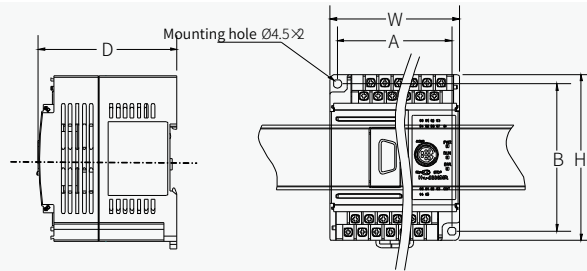
Small PLC

Series	Model	W (mm)	H (mm)	D (mm)	A (mm)	B (mm)
H1S series simplified economical small PLC	H1S-0806MT-XP	70	90	75	62	80
	H1S-0806MR-XP	70			62	
	H1S-1208MT-XP	93			83	
	H1S-1208MR-XP	93			83	
	H1S-1410MT-XP	93			83	
	H1S-1410MR-XP	93			83	
	H1S-1614MT-XP	110			100	
	H1S-1614MR-XP	110			100	
	H1S-2416MT-XP	133			123	
	H1S-2416MR-XP	133			123	
	H1S-2820MT-XP	148			138	
	H1S-2820MR-XP	148			138	
	H1S-3624MT-XP	179			169	
	H1S-3624MR-XP	179			169	
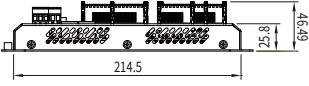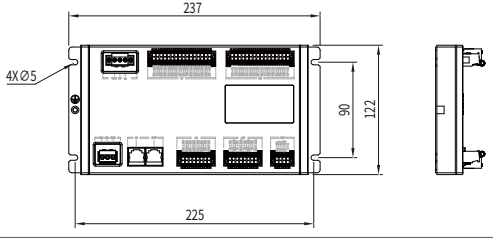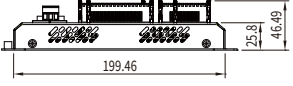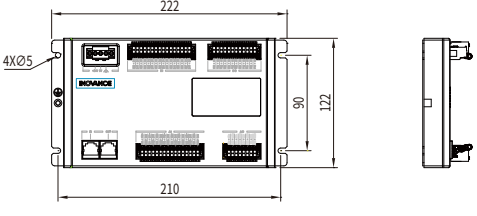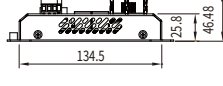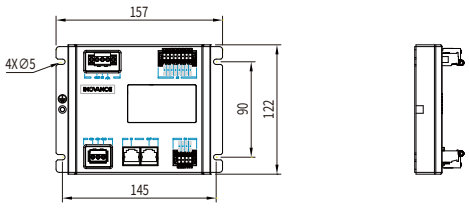
Expansion Modules
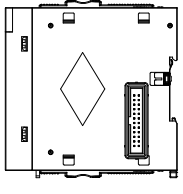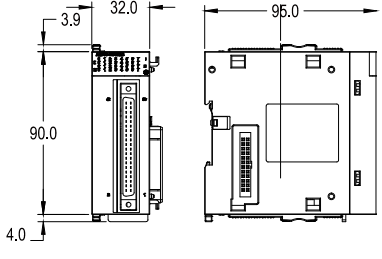
Series	Model	Dimensions
GR series distributed high-speed module	GR10-0808ETNE	
	GR10-1616ETNE	
	GR10-4ADE	
	GR10-4DAE	
	GR10-8TCE	
	GR10-4PME	
	GR10-2HCE	
	GR10-8PBE	
	GR10-2PHE	
	GR10-EC-6SW	

Series	Model	Dimensions	
GL series centralized universal module	GL10-PS2		
	GL10-RTU-ECTA		
	GL10-RTU-COP		
			W（mm）
	GL10-1600END		117.0
	GL10-3200END		113.3
	GL10-3200END-F01		113.3
	GL10-0016ETN		117.0
	GL10-0016ETP		117.0
	GL10-0016ER		117.0
	GL10-0032ETN		113.3
	GL10-4AD		117.0
	GL10-4DA		117.0
	GL10-4PT		117.0
	GL10-4TC		117.0
	GL10-8TC		117.0
	GL10-4PM		113.3
	GL10-2PH		113.3

Dimensions

Expansion Modules

Series	Model	Dimensions
GR distributed dedicated hybrid expansion module	GR10-32ETP8AME	
	GR10-28ETP12AME	
	GR10-4ETP4ADE	

Series	Model	Dimensions
AM600 module	AM600-3200END	
	AM600-0032ETN	

Series	Model	W (mm)	H (mm)	D (mm)	A (mm)	B (mm)
CANlink remote expansion module	H2U-0016ETDR					
	H2U-0016ERDR					
	H2U-1600ENDR					
	H2U-4ADR					
	H2U-4DAR					
	H2U-2ADR		58	90	87	80
	H2U-4AMR					
	H2U-6AMR					
	H2U-6CMR					
	H2U-4PTR-XP					
	H2U-4TCR-XP					
	H2U-0808ERDR					

Series	Model	Dimensions
H2U series local expansion module	H2U-0016ETN	
	H2U-0016ERN	
	H2U-4AD	
	H2U-4DA	
	H2U-1600ENN	
	H2U-6AM	
	H2U-2AD	
	H2U-2DA	
	H2U-4AM	
	H2U-6CM	
	H2U-4PT-XP	
	H2U-4TC-XP	
	H2U-0808ERN	
	H2U-0808ETN	
	H2U-0008ERN	
	H2U-0008ETN	
	H2U-0800ENN	
	H2U-0404ERN	
	H2U-0404ETN	
	H2U-4HC	
	H2U-4PT-XP-QX	

Dimensions

HMI
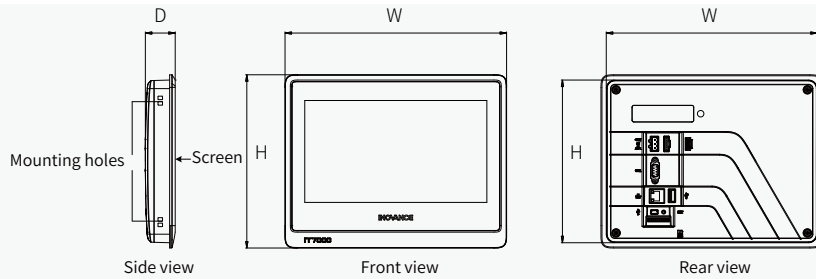
Side view   Front view   Rear view

Series	Model	Specifications		Recommended Hole Dimensions	
		Dimensions W × H × D (mm)	Dimensions for Through Hole Mounting W × H (mm)	W+2 (mm)	H+2 (mm)
IT7000 series high-performance general-purpose HMI	IT7070S	200×146×35	191×137	193	139
	IT7070T				
	IT7070E				
	IT7100S	271×213×36	258×200	260	202
	IT7100E				
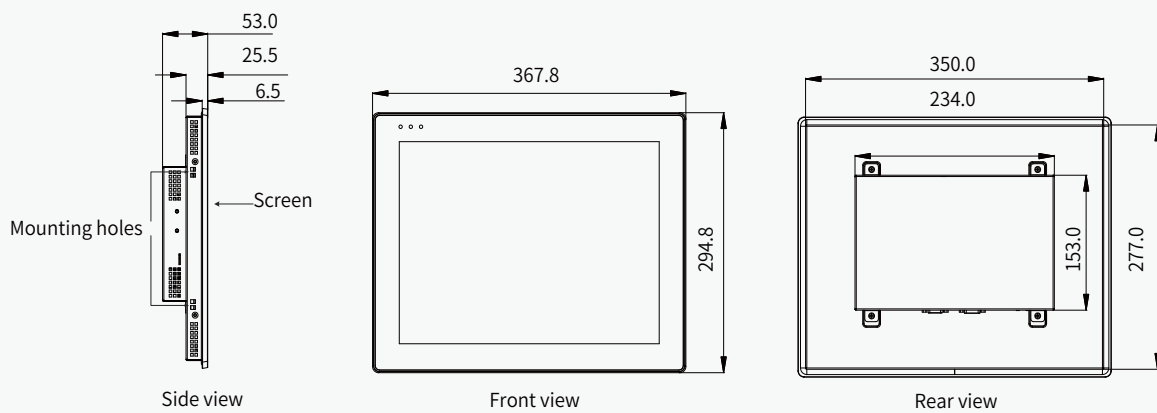
Side view   Front view   Rear view

Series	Model	Specifications		Recommended Hole Dimensions	
		Dimensions W × H × D (mm)	Dimensions for Through Hole Mounting W × H (mm)	W+2 (mm)	H+2 (mm)
IT7000 series high-performance general-purpose HMI	IT7150E	367.8×294.8×53	350×277	352	279
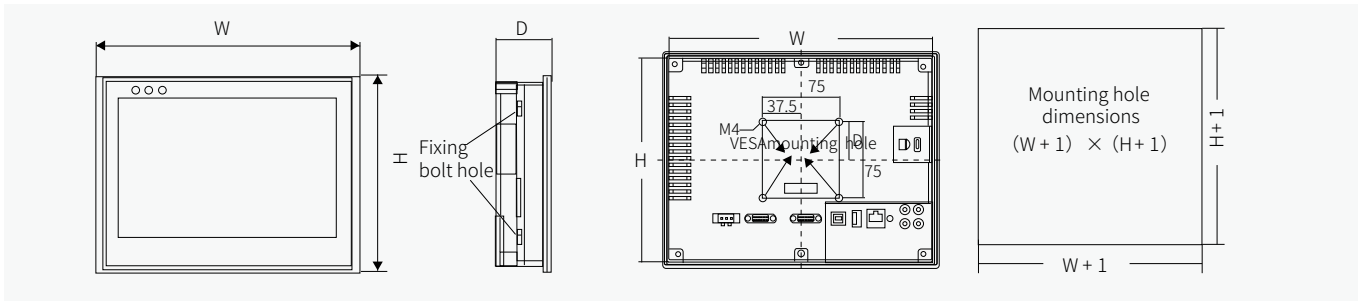
Fixing bolt hole

M4
VESA mounting hole
75
37.5
75

Mounting hole dimensions
(W + 1) × (H + 1)

W + 1

H + 1

| Series	Model	Specifications			Recommended Hole Dimensions	
		Dimensions W × H × D (mm)	Dimensions for Through Hole Mounting W × H (mm)	VESA Installation Dimensions D × D (mm)	W+1 (mm)	H+1 (mm)
IT6000 series general-purpose HMI	IT6043T	128×102×35	118×92	/	119	93
	IT6070T	200×146×42	191×137	/	192	138
	IT6070E	200×146×42	191×137	/	192	138
	IT6070EG-IOT	200×146×42	191×137	/	192	138
	IT6100E	271×213×40	258×200	75×75	259	201
	IT6070TS	200×146×42	191×137	/	192	138

Resources

Inovance Water Drop Community

Inovance Water Drop Community

Inovance Online Library

Get access to Inovance product manuals
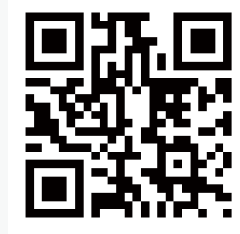
We

G

Chat Official Account of Inovance
Get more use cases and product information

Get access to Inovance product manuals
Get access to Inovance product manuals

Shenzhen Inovance Technology Co., Ltd.

www.inovance.com

Add.: Building E, Hongwei Industry Park, Liuxian Road,
Baocheng No. 70 Zone, Bao'an District, Shenzhen
Tel: (0755) 2979 9595   Fax: (0755) 2961 9897

Suzhou Inovance Technology Co., Ltd.

www.inovance.com

Add.: No. 16 Youxiang Road, Yuexi Town, Wuzhong
District, Suzhou 215104, P.R. China
Tel: (0512) 6637 6666   Fax: (0512) 6285 6720