

Motion Control Products

Complete motion control product portfolio

EtherCAT®



H3U series PLC

High performance 3-axes motion controller

H3U PLC features & functions

- All in one CPU and power supporting local and remote I/Os
- Basic instruction: 100 ns/instruction
- Program capacity: 64 K steps
- Device memory
 - o Auxiliary relay 9,216 points
 - o Timers 512 points
 - o Counters 256 points
 - o Data registers 9,552 points
 - o File registers 32,768 points
- High-speed inputs up to 200 kHz
- High-speed output up to 500 kHz
- Three-axes CAM (PMRTA-model)
- Standard motion: Two-axes circular & point to point interpolation
- PM-model: Three-axes point to point & spherical curve
- Supports Ethernet (Modbus TCP), RS485 (Modbus RTU), CANopen, CANlink (Inovance protocol) communication
- Maximum 192 D I/Os (local), 24 analog I/Os (local) & 7,936 D I/Os (remote), 1,488 analog I/Os (remote)
- Programming language conforms to IEC61131-3 standards:
 - o Ladder diagram (LD)
 - o Instruction list (IL)
 - o Sequential function chart (SFC)

Up to three-axes electronic CAM, flexible & easy setup

Built-in multiple communication ports, including Ethernet, CAN serial, USB port, supporting program upload/download via serial /USB/Ethernet port



Operation in high ambient temperatures 55°C avg.

PC based software-AutoShop easy programming tool, supports Win10/Win7u/WinXP

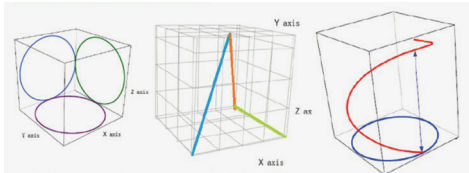


Performance specification between H3U standard and H3U-PM motion control model

Description	H3U standard model	H3U-PM motion control model
Program capacity	64 K	
Basic instruction rate	100 ns	
High-speed input	200 kHz (8 inputs)	200 kHz (3 inputs)
High-speed output	200 kHz (5 outputs)	500 kHz (3 outputs)
Storage capacity in case of a power failure	48K	
COM serial communication	COM0: RS422, COM1: RS485	
CAN communication	Equipped with a CAN communication port CANlink (up to 256 items for a primary station, and up to 16 items for a secondary station), CANopen (up to 64 items for a primary station, and up to 8 items for a secondary station)	
Ethernet communication	Equipped with an Ethernet port program uploading/downloading and Modbus TCP Up to 16 links	Equipped with an Ethernet port program uploading/downloading and Modbus TCP Up to 8 links
USB	Supported	
Expansion module type	AM600 extension module, CANlink remote module and AM600 remote module	
Interpolation	2-axes arc and 2-axes straight line	2-axes arc, 3-axes straight line and spiral line
Positioning instruction	Multiple positioning types added	
S-curve acceleration/deceleration	Supported	
Special element	SM, SD and R added	
Subprogram with parameters	FC supported	
Electronic CAM	Not supported	3-axes electronic CAM
Motion control and G-code	Not supported	Supported

Powerful motion control

- 2 axes arc interpolation
- 3 axes linear interpolation
- 3 axes helix interpolation



General specifications

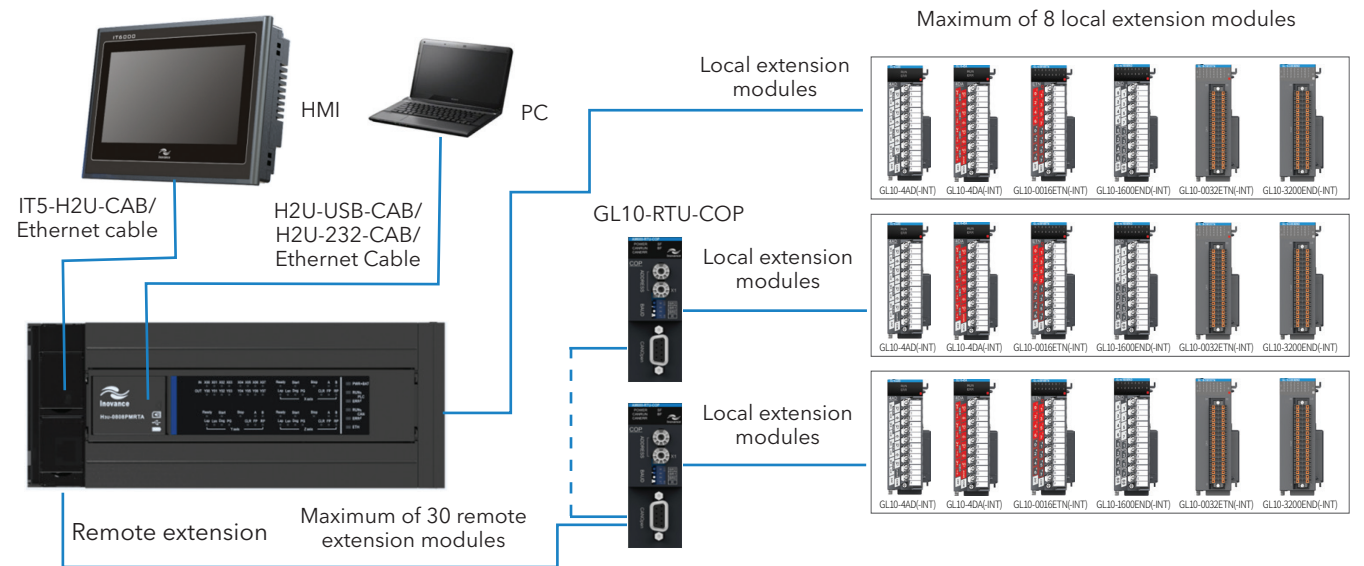
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Configuration	Model number				
	H3U-0808PMRTA-INT	H3U-3232MT-INT	H3U-3232MR-INT	H3U-1616MT-XP-INT	H3U-1616MR-XP-INT
Total inputs	8	32	32	16	16
High-speed inputs	3 x 200 kHz	8 x 200 kHz	8 x 200 kHz	8 x 200 kHz	8 x 200 kHz
Total outputs	8	32	32	16	16
High-speed outputs	3 x 500 kHz	5 x 200 kHz	N/A	5 x 200 kHz	N/A
Output type	4 x Relay 4 x Transistor	Transistor	Relay	Transistor	Relay
Local extension I/O	Maximum of 128 DI/DO or 24 AD/DA				
Remote extension I/O	Maximum of 7,936 DI/DO or 1,488 AD/DA				
Power supply	220 VAC (100~240 VAC)				
Serial port	COM0 (RS422/RS485), COM1 (RS485)				
CAN port	CANopen/CANlink				
Ethernet port	In-built				
USB	Mini-USB Type-B				
W x H x D mm	230 x 90 x 95			170 x 90 x 90	

Accessories list

Type	Model number	Detailed description
Extension modules	GL10-2PH	2-channel high-speed differential (line driver) pulse outputs extension module
	GL10-4PM	4-channel open collector pulse outputs extension module
	GL10-1600END-INT	16 inputs, input voltage: 24 VDC, sink/source mode
	GL10-0016ETP-INT	16 outputs, PNP transistor, maximum current: 500 mA @ 24 VDC
	GL10-0016END-INT	16 outputs, NPN transistor, maximum current: 500 mA @ 24 VDC
	GL10-0016ER-INT	16 outputs, relay, rated current: 2A @ 250 VDC
	GL10-4AD-INT	4 analog inputs, resolution: 16 bit, accuracy: 0.1%
	GL10-4DA-INT	4 analog outputs, resolution: 16 bit, accuracy: 0.1%
	GL10-3200END-INT	32 inputs, input voltage: 24 VDC, sink/source mode
	GL10-0032ETN-INT	32 outputs, NPN transistor, maximum current: 500 mA @ 24 VDC
	GL10-RTU-COP	CANopen slave module, maximum of 16 extension I/O modules
	GL10-PS2-INT	Power source module, input: 220 VAC, output: 2 A / 24 VDC
	GL10-4PT	4-channel input thermal resistance temperature detection module
Cable	GL10-8TC	8-channel input thermocouple temperature detection module
	H2U-232-CAB	Connection of PC to Inovance PLC (DB9 female) length of 2 m
	H2U-USB-CAB	Connection of PC to Inovance PLC (mini USB) length of 1.5 m
	IT5-H2U-CAB	Connection of HMI to Inovance PLC (DB9 male) length of 3 m
	S6-LT04-0.3	Ethernet cable, length of 0.3 m, speed of up to 100 Mbps, STP
Battery	S6-LT04-3.0	Ethernet cable, length of 3 m, speed of up to 100 Mbps, STP
	H2U-BAT	CR2032 button cell lithium battery for Inovance PLC, 3.0 V, 225 mAh, Built-in wires 55 mm long

H3U series PLC system configuration



High performance single axis servo IS620 series

MS1 motors - general purpose

IS620 series servos

High performance servo system for motion control applications

IS620 drive - key features
High performance
Current loop bandwidth > 4 kHz
Speed loop bandwidth > 1.2 kHz
Wide range
Supply voltage
Single phase 220 V
Three phase 220 V
Three phase 380 V
0.05 kW to 7.5 kW
Network compatibility
Pulse/direction, analog & Modbus RTU - IS620P
EtherCAT IS620N series servos
CANopen IS620P-CO series servos
Easy to use
Easy commissioning with keypad
Fine tune with PC software (InoServoShop)
Smart tuning
Inertia auto-tuning (on-line/off-line)
Automatic gain tuning
Adaptive notch filter
Automatic/manual damping filter for low frequency resonance



MS1 motor - key features
High precision
20 bit resolution serial incremental encoder
23 bit resolution multi-turn absolute encoder
Wide selection
Motor frame size – 40, 60, 80, 100, 130, 180
Rated torque from 0.16 Nm up to 48.0 Nm
Low and medium inertia selection
Rated speed 1,500 rpm or 3,000 rpm
Reliable operation
IP67 degree of protection with oil seal (MS1H1/H4)
Low cogging torque - 1% of rated torque
Powerful performance
Peak torque 350% (750 W or smaller MS1 motor)

IS620 series highlights

Smart tuning- easy commissioning with new function

The machine can be automatically optimized using automatic gain tuning function based on the stiffness level to achieve fast response and stability.

Load inertia identification: on-line and off-line inertia identification.

Convenient gain adjustment: speed loop and position loop gains can be automatically adjusted by setting the stiffness level.

Self-adaptive notch filter: 4 sets of automatic & manual notch filters to detect vibration frequency.

Damping filter: suppress vibration from 1 to 100 Hz to avoid mechanical resonance.

High resolution encoder (multi-turn, optional)

23-bit multi-turn absolute encoder developed inhouse by Inovance Technology, delivers resolution of 8 million counts per revolution for extremely precise positioning in applications such as industrial robots, machine tools and, semiconductor manufacturing machines.

Servo drive is equipped with a battery, which stores data on power failure, this avoids repeat homing operation.

Encoder Resolution
8388608 PPR

IS620N EtherCAT overview



EtherCAT: high-performance, cost-effective and flexible use

Open technology - proven in use

EtherCAT is a high performance, low-cost easy to use industrial Ethernet technology with a flexible topology.

CoE (CAN application protocol over EtherCAT) is the most commonly used EtherCAT, communication protocol for cyclic data access.

CoE also provides mechanism to configure PDOs for cyclic data exchange. The drive profile CiA 402 (IEC 61800-7-201) is mapped to EtherCAT. IS620N servo drive supports CoE with CiA402 profile.

CiA 402 profile type (CoE)	
Profile position mode (PP)	Cyclic synchronous position mode
Profile velocity mode (PV)	Cyclic synchronous velocity mode
Profile torque mode (PT)	Cyclic synchronous torque mode (CST)
Homing mode (HM)	

IS620P-CO CANopen overview



CiA 402 device profile for drives and motion controllers (IEC 61800-7-201/301)

IS620P-CO drive supports CANopen slave mode

CiA 402
1 Profile position
3 Profile velocity mode
6 Homing mode
7 Interpolation mode

MS1 motor

Advantages of MS1 motor

- Overload capacity of the motor 350% (750 W and less, MS1 motor)
- IP67 rating with oil seal
- Torque ripple <0.5%

Length of MS1H1 100 watt model, only 77.5 mm



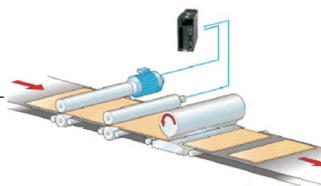
Powerful yet compact size

Typical applications

Full closed loop position control

Description

The external encoder gives real time position feedback. Servo drive conducts closed-loop position control via the signals to ensure that the materials are aligned accurately and smoothly to the pre-set position.



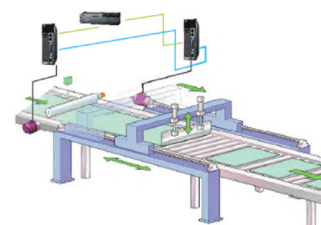
This function can effectively compensate slipping of materials and properly adjust gaps in conveyor processes. The dual-PG full closed-loop control function is powered by an algorithm integrated in the servo drive. The accuracy of speed and position control during this process can be adjusted by the filter embedded in the drive. Also an overtravel protection function helps if the difference between the positions of the internal and external loops is large. This ensures smooth and reliable material properties.

Applications

Steel plate cutting, pipe bending, wire stripping, packaging machines

Electronic CAM control

The external encoder gives real time position feedback. The servo drive uses this signal as a master axis and programs position eCAM curve for the slave axis (servo motor). The slave motor then follows the eCAM curve. This function realizes the mechanical CAM electronically. It easily performs changes of eCAM curves without maintaining or changing mechanical CAMs. Rotary cutting, flying cutting and flying saw functions are all possibilities.



Applications

Printing machines, horizontal packaging machines, flying cutting, bag cutting

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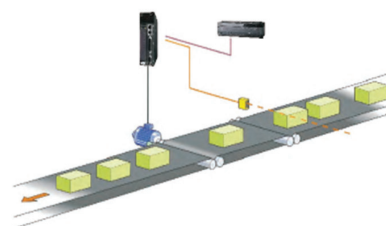
Convenient motor connectors allow selection between front and back outlet connections



Change on-the-fly position control

Description

If the servo drive is running in position control mode and fixed-length interruption function is enabled, then after an external DI signal, the servo motor will immediately go to pre-set length at the same speed. This function has the highest priority which ensures rapid response. When the function is effective, the servo motor does not respond to other position commands.



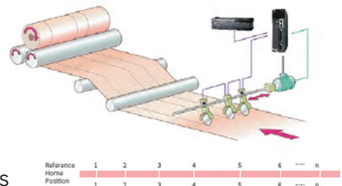
Applications

Cut-to-length, bearing tube cutting.

Multi-position control

Description

Multi-position control can be realized through a combination of input terminals by selecting different in-built relative or absolute position references (these can be pre-set by PLC or by manual input). Up to 16 positions are supported. During the operation of multi-position control, a position-reach signal will be given when each phase is completed.



Example application

Multi-station switching

High precision IS810 & SV820

Multi-axes servo system

IS810 series features

- All CiA 402 profiles supported
- Ultra-fast current loop >4 kHz
- Multiturn 23-bit serial encoder
- 0.85 kW to 75 kW drive modules
- 0.85 kW to 18.5 kW in dual-axes mode
- 5 notch filters
- Low frequency resonance filter
- Dual-axes servo rack
- Single motor power and encoder cable
- Auto detect motor configuration
- Dedicated Ethernet (Modbus TCP/IP)
- Secondary encoder feedback



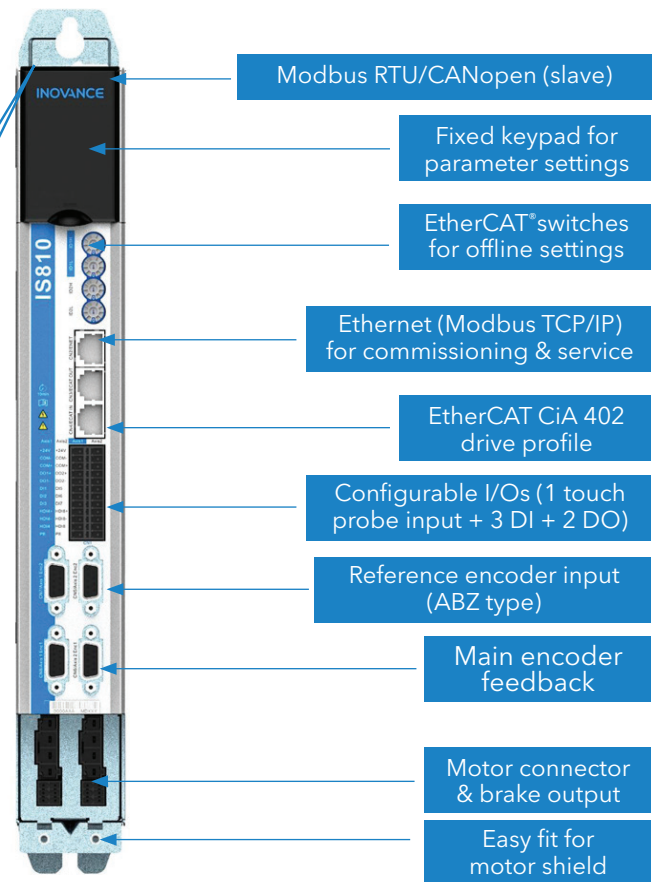
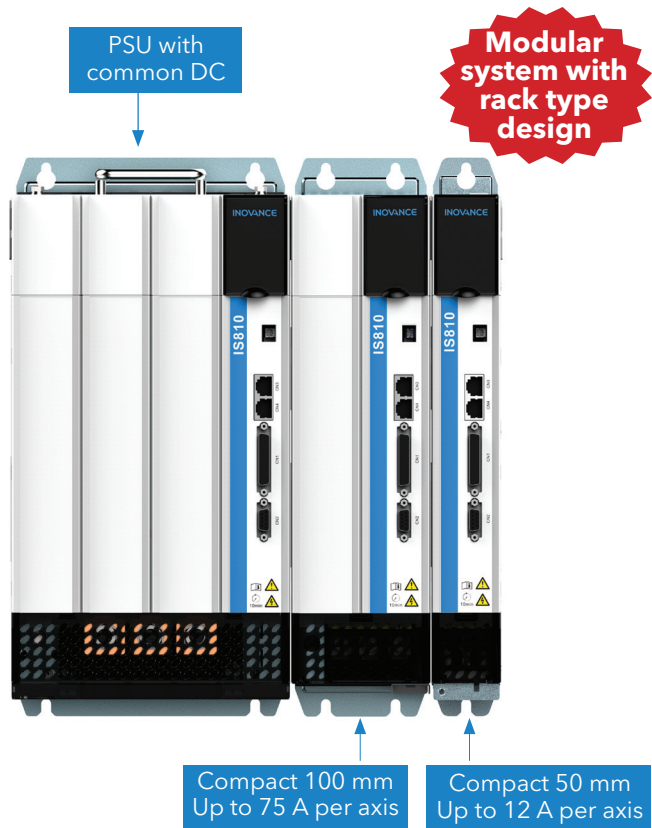
IS810 drive - key features

- High precision
- Current loop bandwidth > 4 kHz
- Speed loop bandwidth > 2 kHz
- Safety onboard
- Dual STO
- Digital I/O
- Per axis: 4 DI (1 fast input) + 2 DO
- Network
- EtherCAT® - CiA 402 motion profile (IS810N)
- CANopen® - Slave (IS810P)
- Smart tuning
- Inertia auto-tuning (on-line/off-line)
- Automatic gain tuning
- Adaptive notch filter
- Automatic/manual damping filter for low frequency resonance
- Easy to use
- Easy commissioning with keypad
- Fine tuning with PC software (InoDriveStudio)

SIL3
IEC61508

IS810N is a multi-axes platform

- This platform includes advanced features designed to obtain maximum performance in demanding servo applications
- EtherCAT® fieldbus onboard and Ethernet ports as standard
- ETC algorithm developed by Inovance's Milan R&D centre delivers excellent performance with high inertia mismatching and low stiffness mechanical systems



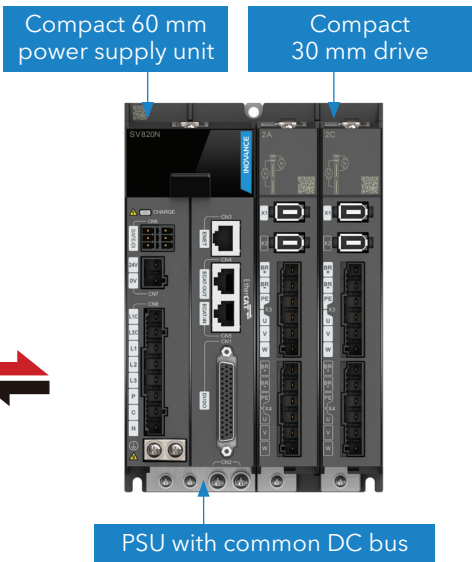
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IS810 series selection chart

Rated speed (RPM)	Max. speed (RPM)	Capacity (kW)	Servo motor model	Motor frame	Drive model	Drive size (Width)		
3,000	6,000	0.05	MS1H1-05B30CB-***Z	40	IS810N50M4T_3R5INT	1 (50 mm)		
		0.1	MS1H1-10B30CB-***Z	60				
		0.2	MS1H1-20B30CB-***Z					
		0.4	MS1H1-40B30CB-***Z					
		0.55	MS1H1-55B30CB-***Z	80	IS810N50M4T_5R4INT			
		0.75	MS1H1- 75B30CB-***Z		IS810N50M4T_8R4INT			
		1	MS1H1-10C30CB-***Z					
3000	5,000	1	MS1H2-10C30CD-***Z	100	IS810N50M4T_5R4INT			
		2	MS1H2-20C30CD-***Z		IS810N50M4T_8R4INT			
		2.5	MS1H2-25C30CD-***Z					
		3	MS1H2-30C30CD-***Z	130	IS810N50M4T_012INT			
		4	MS1H2-40C30CD-***Z		IS810N50M4T_017INT			
		5	MS1H2-50C30CD-***Z		IS810N50M4T_017INT			
1,500	3,000	0.85	MS1H3-85B15CD-***Z	130	IS810N50M4T_3R5INT	1 (50mm)		
		1.3	MS1H3-13C15CD-***Z		IS810N50M4T_5R4INT			
		1.8	MS1H3-18C15CD-***Z		IS810N50M4T_8R4INT			
		2.9	MS1H3-29C15CD-***Z		IS810N50M4T_012INT			
		4.4	MS1H3-44C15CD-***Z	180	IS810N50M4T_017INT	2 (100 mm)		
		5.5	MS1H3-55C15CD-***Z		IS810N50M4T_021INT			
		7.5	MS1H3-75C15CD-***Z		IS810N50M4T_026INT			
		0.4	MS1H4-40B30CB-***Z		60		IS810N50M4T_3R5INT	
0.75	MS1H4-75B30CB-***Z	80	IS810N50M4T_5RN4INT					
3,000	6,000	0.05	MS1H1-05B30CB-***Z-S	40	IS810N50M4T_3R5INT	1 (50 mm)		
		0.1	MS1H1-10B30CB-***Z-S	60				
		0.2	MS1H1-20B30CB-***Z-S					
		0.4	MS1H1-40B30CB-***Z-S					
		0.55	MS1H1-55B30CB-***Z-S	80	IS810N50M4T_5R4INT			
		0.75	MS1H1-75B30CB-***Z-S		IS810N50M4T_8R4INT			
		1	MS1H1-10C30CB-***Z-S					
		0.4	MS1H4-40B30CB-***Z-S	60	IS810N50M4T_3R5INT			
		0.75	MS1H4-75B30CB-***Z-S	80	IS810N50M4T_5R4INT			
1,500	1,800	9.5	ISMG1-95C15CD-A331FA	200	IS810N50M4T_017INT	2 (100 mm)		
2,000	2,400	12	ISMG1-12D20CD-A331FA		IS810N50M4T_021INT			
1,500	1,800	14	ISMG1-14D15CD-A331FA		IS810N50M4T_026INT			
1,500	1,800	17	ISMG1-17D15CD-A331FA		IS810N50M4T_032INT			
2,000	2,400	18	ISMG1-18D20CD-A331FA		IS810N50M4T_032INT			
1,500	1,800	22	ISMG1-22D15CD-A331FA		IS810N50M4T_037INT			
2,000	2,400	23	ISMG1-23D20CD-A331FA		IS810N50M4TS045INT			
		28	ISMG1-28D20CD-A331FA		IS810N50M4TS060INT			
1,500	1,800	30	ISMG1-30D15CD-A331FA					
2,000	2,400	41	ISMG1-41D20CD-A331FA					
1,500	1,800	31	ISMG2-31D15CD-A331FA				266	IS810N50M4TS075INT
2,000	2,400	42	ISMG2-42D20CD-A331FA					
1,500	1,800	42	ISMG2-42D15CD-A331FA		IS810N50M4TS090INT			
		52	ISMG2-52D15CD-A331FA		IS810N50M4TS090INT			
2,000	2,400	57	ISMG2-57D20CD-A331FA	IS810N50M4TS090INT				
1,500	1,800	60	ISMG2-60D15CD-A331FA	IS810N50M4TS112INT				
2,000	2,400	70	ISMG2-70D20CD-A331FA	IS810N50M4TS152INT	3 (200 mm)			

SV820 series features

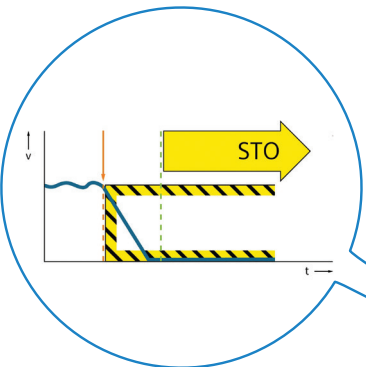
- EtherCAT CiA 402 profile supported
- Ultra-fast current loop >4 kHz
- Multiturn 23-bit serial encoder
- Dual-axes servo rack
- Auto detection of motor configuration
- Compact size and footprint for robot applications
- Dimensions: 122 x 184 x 144 mm (WxHxD)
- Power supply range 200-240 Vac-15%+ 10%
- Power supply unit (PSU) available in 1 kW & 2 kW
- Single/dual axes drive modules from 2.8 to 4.6 A



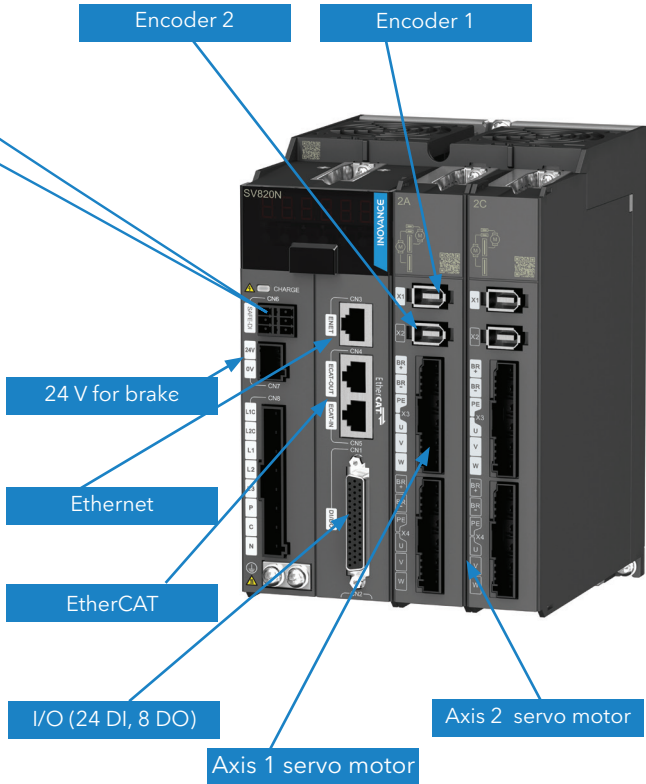
SV820 is a multi-axes servo platform available in 3 or 4 axes versions, and featuring an internal power supply module.

- EtherCAT platform offers dedicated functionality for robotic applications
- Ultra-fast internal loop (current, speed, position), excellent control with light load and high dynamic response
- STO (Safe Torque Off) as standard for all axes
- Compact size and IP67 motor with high resolution multiturn encoder complete the package

SIL 3
IEC61508



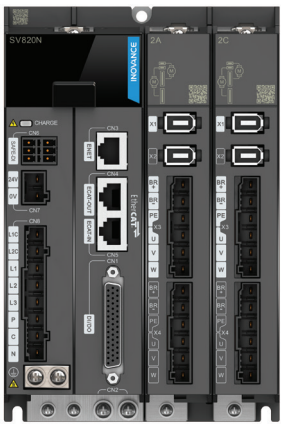
SV820 drive - key features	
High precision	
Current loop bandwidth > 4 kHz	
Speed loop bandwidth > 2 kHz	
Safety onboard	
Dual STO	
Digital I/O	
24 DI (16 fast inputs + 8 standard) + 8 DO	
Power supply range	
3-phase, AC 200-220 V, -15% to +10%	
Network	
EtherCAT® - CiA 402 Motion Profile	
Ethernet Modbus TCP/IP, Ethernet IP, Modbus RTU	
Smart tuning	
Inertia auto-tuning (on-line/off-line)	
Automatic gain tuning	
Adaptive notch filter	
Automatic/manual damping filter for low frequency resonance	
Easy to use	
Easy commissioning with keypad	
Fine tuning with PC software (InoDriveShop)	



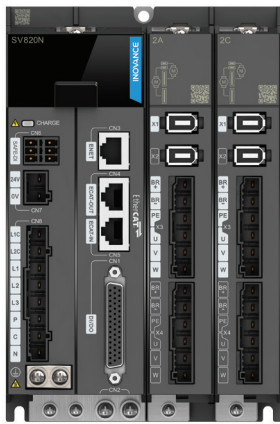
SV820 servo drive specifications

EtherCAT Drive Model	Axes	Input Power 220 V AC	Rated Output Power of Power Supply Unit	Axis 1 Output Current	Axis 2 Output Current	Peak Output Current (3 s)	Axis 3 Output Current	Axis 4 Output Current	Peak Output Current (3 s)
		Power supply unit		Drive Unit 1		Drive Unit 2			
SV820N2S2C2C	4 axes	Three phase	2 kW	2.8 A	2.8 A	8.4 A	2.8 A	2.8 A	8.4 A
SV820N2S2C2D	4 axes	Three phase	2 kW	2.8 A	2.8 A	8.4 A	4.6 A	4.6 A	13.8 A
SV820N1S2C1C	3 axes	Single/three phase	1 kW	2.8 A	2.8 A	8.4 A	2.8 A	-	8.4 A
SV820N2S2C1D	3 axes	Three phase	2 kW	2.8 A	2.8 A	8.4 A	4.6 A	-	13.8 A
SV820N2S2D1D	3 axes	Three phase	2 kW	4.6 A	4.6 A	13.8 A	4.6 A	-	13.8 A

2.8 A axis controls up to 400 Watt motors
4.6 A axis controls up to 750 Watt motors

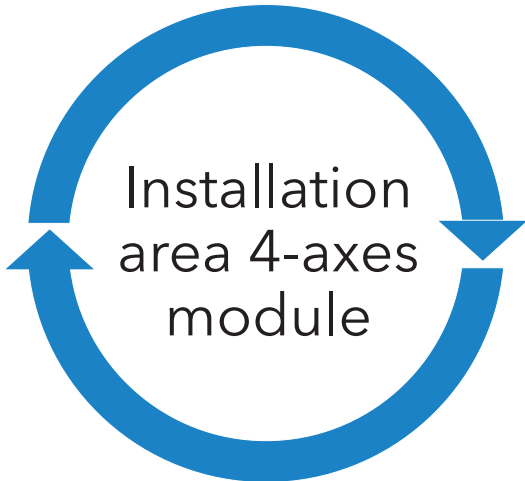
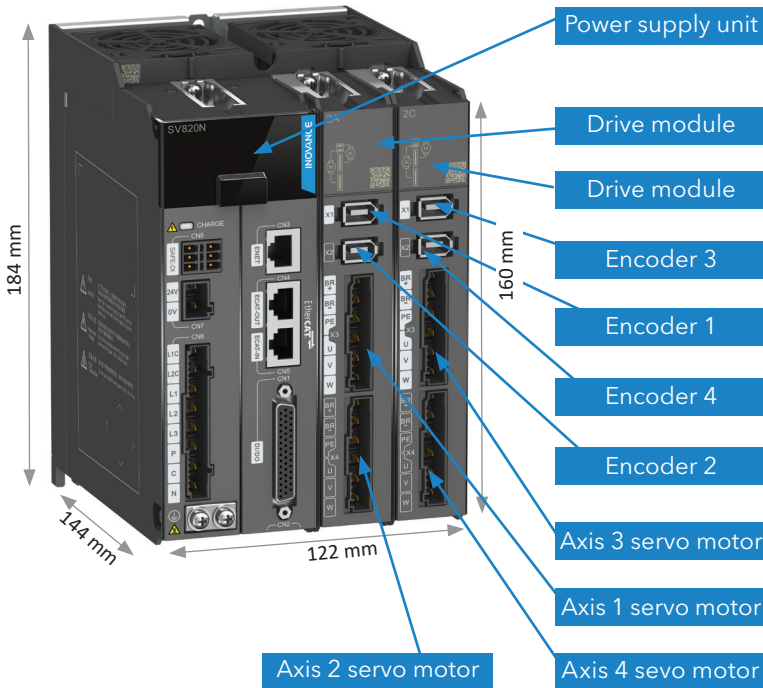


4-axes unit



3-axes unit

Compact: 4-axes module+PSU



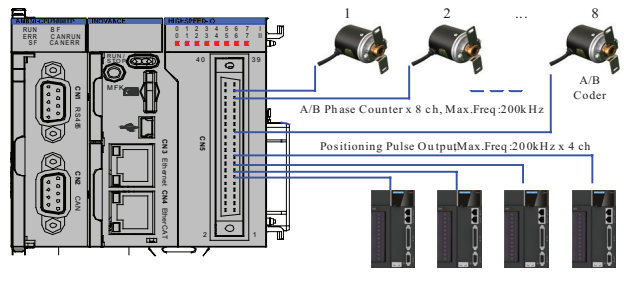
AM40X-AM600 centralised motion controller

Product description

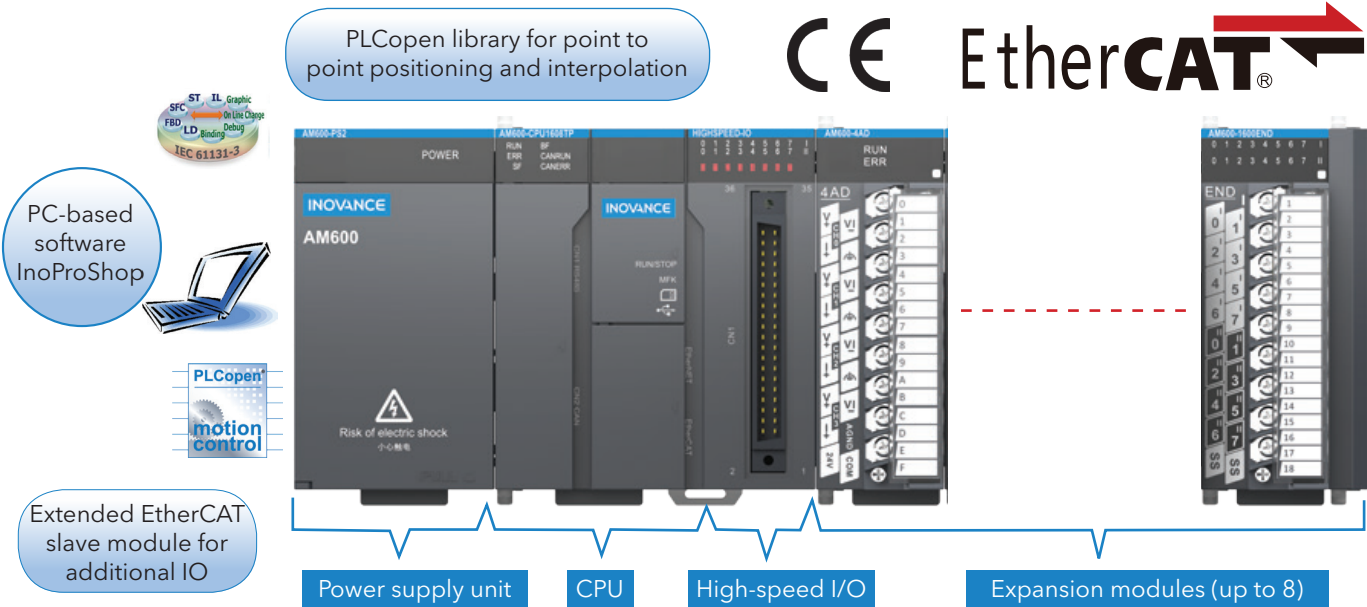
- AM40x-AM600 CPU Module - 24 VDC power supply
- High-speed inputs x 16
- High-speed outputs x 8 (200 kHz)
- RS485 x Modbus RTU master / slave (1X AM40X, 2X AM600)
- CANopen port x 1
- EtherCAT port x 1 for motion profile
- CiA402 Ethernet port x 1
- Modbus TCP/IP
- USB x 1
- CPU: ARM cortex A8
- 1 GHz clock frequency
- A-B channel, 800 kHz
- Single channel, 200 kHz

High-speed I/O interface

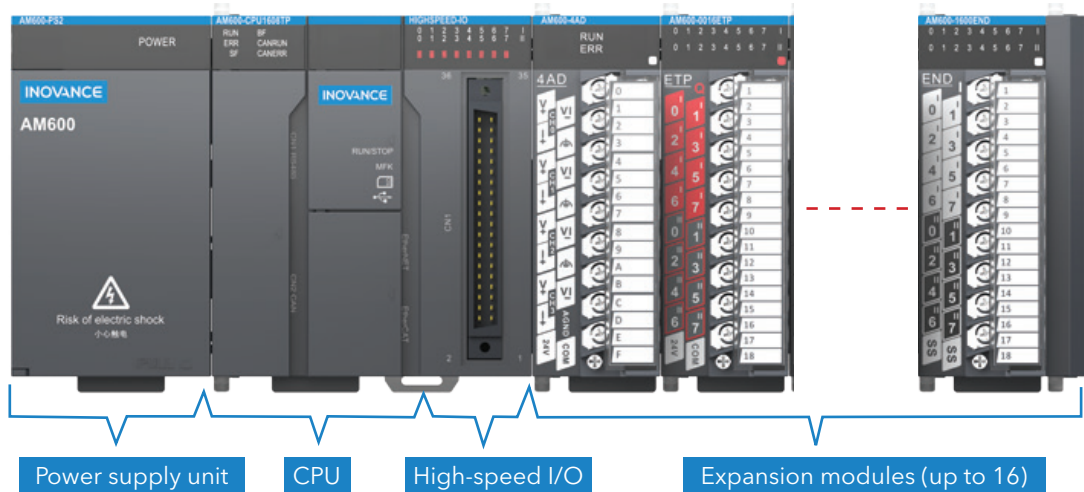
- AM600 CPU module has 16 high speed inputs, 8 high speed outputs
- Supports 8-ch A/B phase pulse counting with each channel of 200 kHz at maximum
- Supports measurement of pulse frequency and its width, accuracy is +/-2us



AM401, AM402, AM403 local expansion



AM600 local expansion



AM40X-AM600 hardware features



EtherCAT



Motion PLC type	Hardware overview	Ethercat physical axes	EtherCAT slave modules	Onboard communications	CANopen	Local module expansion
AM401-CPU1608TN	16 FAST INPUT + 8 DO	Max 4 axes	Max 125 modules (4x4PME max)	Ethernet 1x RS485 1x	1x (max 8 devices)	Max 8
AM402-CPU1608TN	16 FAST INPUT + 8 DO	Max 8 axes	Max 125 modules (4x4PME max)	Ethernet 1x RS485 1x	1x (max 8 devices)	Max 8
AM403-CPU1608TN	16 FAST INPUT + 8 DO	Max 16 axes	Max 125 modules (4x4PME max)	Ethernet 1x RS485 1x	1x (max 63 devices)	Max 8
AM600-CPU1608TN	16 FAST INPUT + 8 DO	Max 32 axes	Max 125 modules (6x4 PME max)	Ethernet 1x RS485 2x	1x (max 63 devices)	Max 16

AM40X-AM600 functionality supported



TRAFO-Kin_4AxisPalletizer

TRAFO-Kin_Saves
TRAFO-Kin_ArbitratedRobot_600F
TRAFO-Kin_Bipod_Rotary
TRAFO-Kin_CAxis
TRAFO-Kin_CAxis_Tool
TRAFO-Kin_Gantry2
TRAFO-Kin_HGantry2
TRAFO-Kin_HGantry3
TRAFO-Kin_Polar
TRAFO-Kin_Scra2_Z
TRAFO-Kin_Scra3_Z
TRAFO-Kin_TGantry2
TRAFO-Kin_Tool
TRAFO-Kin_Tripod_Linear
TRAFO-Kin_Tripod_Rotary

Functionality supported	AM401-CPU1608TN	AM402-CPU1608TN	AM403-CPU1608TN	AM600-CPU1608TN
DXF in (CAD CAM)	Yes	Yes	Yes	Yes
G-Code (CNC)	Yes (DIN 66025)	Yes (DIN 66025)	Yes (DIN 66025)	Yes (DIN 66025)
Circular	Yes	Yes	Yes	Yes
Helical	Yes	Yes	Yes	Yes
Linear	Yes	Yes	Yes	Yes
Spheric	Yes	Yes	Yes	Yes
Delta robot	Yes	Yes	Yes	Yes
Scara robot	Yes	Yes	Yes	Yes
Cartesian robot	Yes	Yes	Yes	Yes
PLCopen part1	Yes	Yes	Yes	Yes
PLCopen part2	Yes	Yes	Yes	Yes
PLCopen part3	Yes	Yes	Yes	Yes
CAM motion	Yes	Yes	Yes	Yes
HMI supported	Yes (Modbus TCP/IP)	Yes (Modbus TCP/IP)	Yes (Modbus TCP/IP)	Yes (Modbus TCP/IP)



AM400x-600 centralised motion controller

EtherCAT CiA 402 servo motion profile



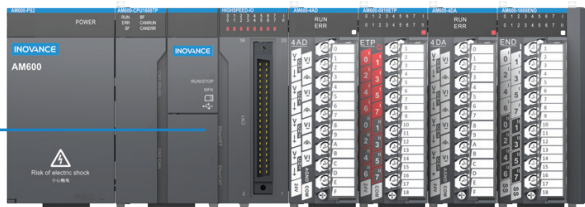
- Cyclic synchronous position mode
- Cyclic synchronous velocity mode
- Cyclic synchronous torque mode
- Homing mode
- Profile position mode
- Profile velocity mode
- Profile torque mode

PLCopen functionality

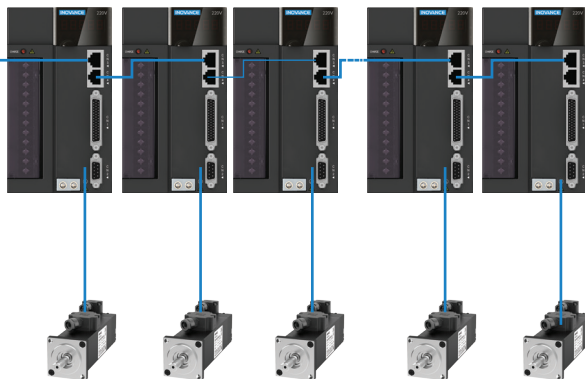


- Point to point
- Interpolated motion
- CAM generator
- Homing function

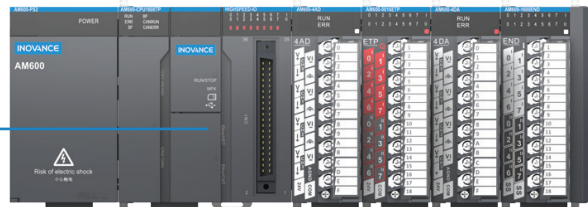
AM40x multi-axes control



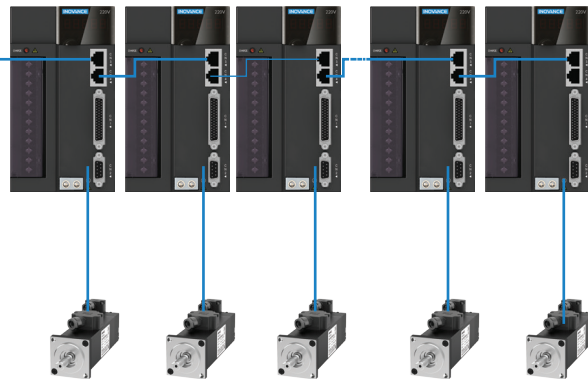
- The EtherCAT bus of the AM401, AM402, AM403 main module supports 4, 8 & 16 servo drives respectively with a refresh rate of 4 ms (for PTP positioning)
- It can realize CAM control of up to 4, 8, 16 axes respectively and a cycle time of 2 ms



AM600 high performance multi-axes control



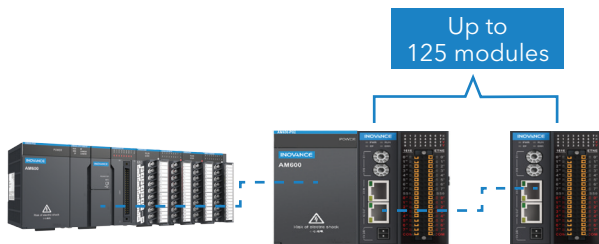
- The EtherCAT bus of the AM600 main module supports 32 axes with a cycle time of 4 ms (for PTP positioning)
- It can realize CAM control of up to 16 axes and a cycle time of 2 ms



Expansion module with EtherCAT bus coupler integrated on-board

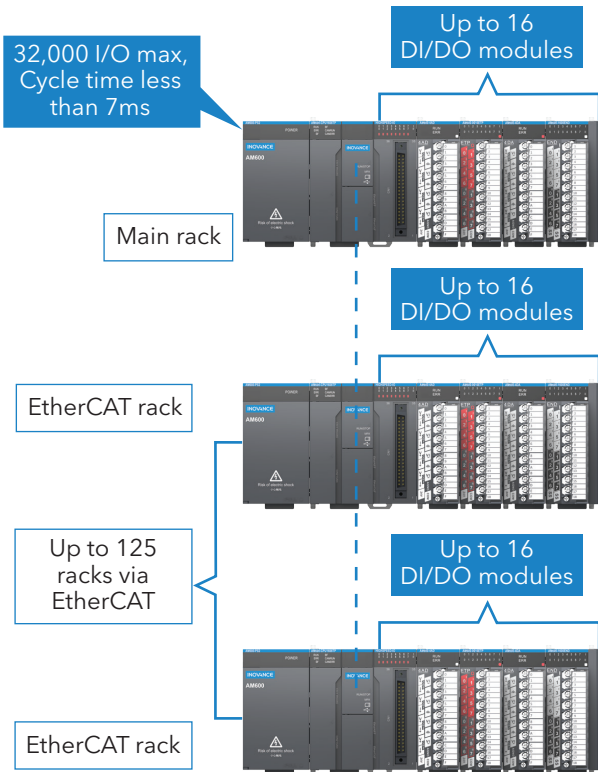
Main features: used with the AM600 CPU module

- It has 16-points digital NPN output and 16-points digital input
- Up to 125 slave modules can be connected
- Nominal output load for each point: 0.5 A point
- Digital inputs: sink/source mode
- Supported service: CoE (PDO, SDO)
- Baud rate: 100 Mbit/s (100 base-TX)
- EtherCAT bus coupler integrated on-board



High-speed I/O interface

- AM600 EtherCAT slave bus coupler module can be added to the main CPU and can be used to create a local area for additional IO modules
- Up to 125 modules can be added



AM40x-AM600 software overview

- IEC61131-3 standard programming languages for industrial applications
- CAM tool generator as standard
- Scope tracing for monitoring and commissioning
- Multi-tasking functionality
- Possibility to create operator interface
- EtherCAT CiA 402 for motion profile
- Extended I/O Module controlled by EtherCAT communication
- CANopen protocol supported (slave mode)
- Modbus RTU (master/slave)
- Modbus TCP/IP (master/slave)
- PLCopen library (part 1-2-4)
- EtherCAT easy axes configuration
- Diagram view of EtherCAT communication system
- Overview of all axes parameters by EtherCAT protocol

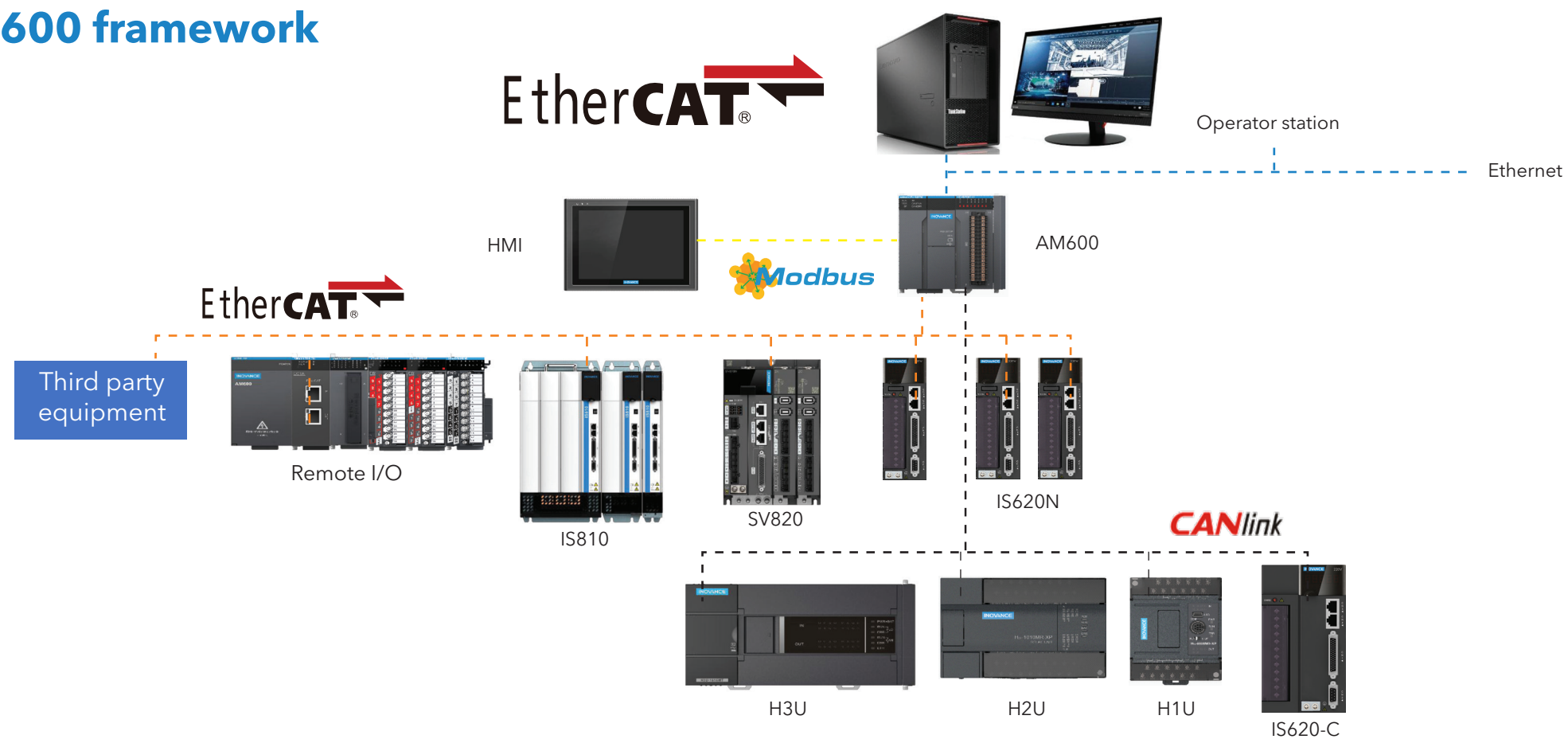
AM40x-AM600 supports IEC 61131-3 programming languages:

- Instruction List (IL)
- Structured Text (ST)
- Function Block Diagram (FBD)
- Ladder Diagram (LD)
- Sequential Function Control (SFC)

InoProShop software

Product description	Model number	Detailed description
AM401 CPU (4 axes) EtherCAT	AM401-CPU1608TN	AM400 CPU module, 24 VDC power supply, high-speed inputs x 16, high-speed outputs x 8, RS485 x 1, CAN port x 1, EtherCAT port x 1, Ethernet port x 1, USB x 1
AM402 CPU (8 axes) EtherCAT	AM402-CPU1608TN	AM400 CPU module, 24 VDC power supply, high-speed inputs x 16, high-speed outputs x 8, RS485 x 1, CAN port x 1, EtherCAT port x 1, Ethernet port x 1, USB x 1
AM403 CPU (16 axes) EtherCAT	AM403-CPU1608TN	AM400 CPU module, 24 VDC power supply, high-speed inputs x 16, high-speed outputs x 8, RS485 x 1, CAN port x 1, EtherCAT port x 1, Ethernet port x 1, USB x 1
AM600 CPU (32 axes) EtherCAT	AM600-CPU1608TP	AM600 CPU module, 24 VDC power supply, high-speed inputs x 16, high-speed outputs x 8, RS485 x 2, CAN port x 1, EtherCAT port x 1, Ethernet port x 1, USB x 1
AM600 - Input module	GL10-3200END-INT	32 inputs, input voltage: 24 VDC, sink/source mode
AM600 - Output module	GL10-0032ETN-INT	32 outputs, NPN transistor, maximum current: 500 mA @ 24 VDC
AM600 - IO module	GR10-0808ETNE	8 inputs, input voltage: 24 VDC, sink/source mode; 8 outputs, NPN transistor, maximum current: 500 mA @ 24 VDC; integrated EtherCAT
AM600- IO module	GR10-1616ETNE	16 inputs, input voltage: 24 VDC, sink/source mode; 16 outputs, NPN transistor, maximum current: 500 mA @ 24 VDC; integrated EtherCAT communication module and power supply (input voltage: 24 VDC)
AM600 PLC output extension module	GL10-0016ETP-INT	PLC extension module, 16 outputs, PNP transistor, maximum current: 500 mA @ 24 VDC
AM600 PLC extension module	GL10-0016ETN-INT	PLC extension module, 16 outputs, NPN transistor, maximum current: 500 mA @ 24 VDC
AM600 PLC extension module	GL10-0016ER-INT	PLC extension module, 16 outputs, relay, rated current: 2 A @ 250 VDC
AM600 PLC input extension module	GL10-1600END-INT	PLC extension module, 16 inputs, input voltage: 24 VDC, sink/source mode
AM600 PLC analog extension module	GL10-4AD-INT	PLC extension module, 4 analog inputs, resolution: 16 bit, accuracy 0.1%
AM600 PLC analog extension module	GL10-4DA-INT	PLC extension module, 4 analog outputs, resolution: 16 bit, accuracy 0.1%
AM600 PLC 4 channel temperature module	GL10-4PT	PLC 4 channel PT thermistor measurement extension module
AM600 Power source module	GL10-PS2-INT	Power source module, input: 220 VAC, output: 2 A/24 VDC
AM600 CANopen slave module	GL10-RTU-COP	CANopen communication slave module, maximum of 16 extension I/O modules
AM600 EtherCAT slave module	GL10-RTU-ECTA-INT	EtherCAT slave module, maximum of 16 extension I/O modules
AM600 PLC 8 channel thermocouple module	GL10-8TC	PLC 8 channel TC thermocouple measurement extension module
AM600 PLC 4 channel thermocouple module	GL10-4TC	PLC 4 channel TC thermocouple measurement extension module
Positioning output module	GR10-4PME-INT	4-channel positioning output module for EtherCAT based communication. Supports the EtherCAT fieldbus and 4-channel positioning output
High-speed counter	GR10-2HCE-INT	2-channel high-speed counting module for EtherCAT-based communication: supports the EtherCAT fieldbus and 2-channel ABZ high-speed

AM40x-AM600 framework



Driven by Technology

AC Drives



AC Multi Drives



MV Drives



Single-Axis Servos



Multi-Axis Servos



Robotics & Motion Controllers



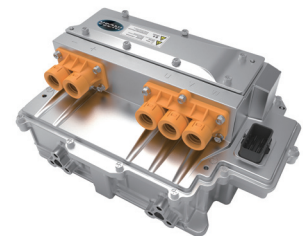
PLCs & HMIs



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International Offices

 **Hong Kong SAR (export office)**
Tel: +852 2751 6080
info@inova-automation.com

 **South Korea-Seoul**
Tel: +82 (0) 10 7428 5732
info@inova-automation.com

 **India**
Head Office Chennai
Tel: +91 (0) 44 4380 0201
Ahmedabad Tel: +91 (0) 79 4003 4274
Mumbai Tel: +91 (0) 22 4971 5883
Delhi Tel: +91 (0) 11 4165 4524
Sales Network in Kolkata, Bengaluru,
Coimbatore, Hyderabad, Pune
info.inovaindia@inova-automation.com

 **Germany-Stuttgart**
Tel: +49 (0) 7144 8990
sales.de@inovance.eu

 **Italy-Milano**
Tel: +39 (0) 2268 22318
sales.it@inovance.eu

 **France-Bordeaux**
Tel: +33 (0) 5594 01050
sales.fr@inovance.eu

 **Turkey-Istanbul**
Tel: +90 (0) 21 6706 1789
info.turkey@inova-automation.com

 **China**
Shenzhen Inovance Technology Co. Ltd.
Suzhou Inovance Technology Co. Ltd.
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info@inova-automation.com

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