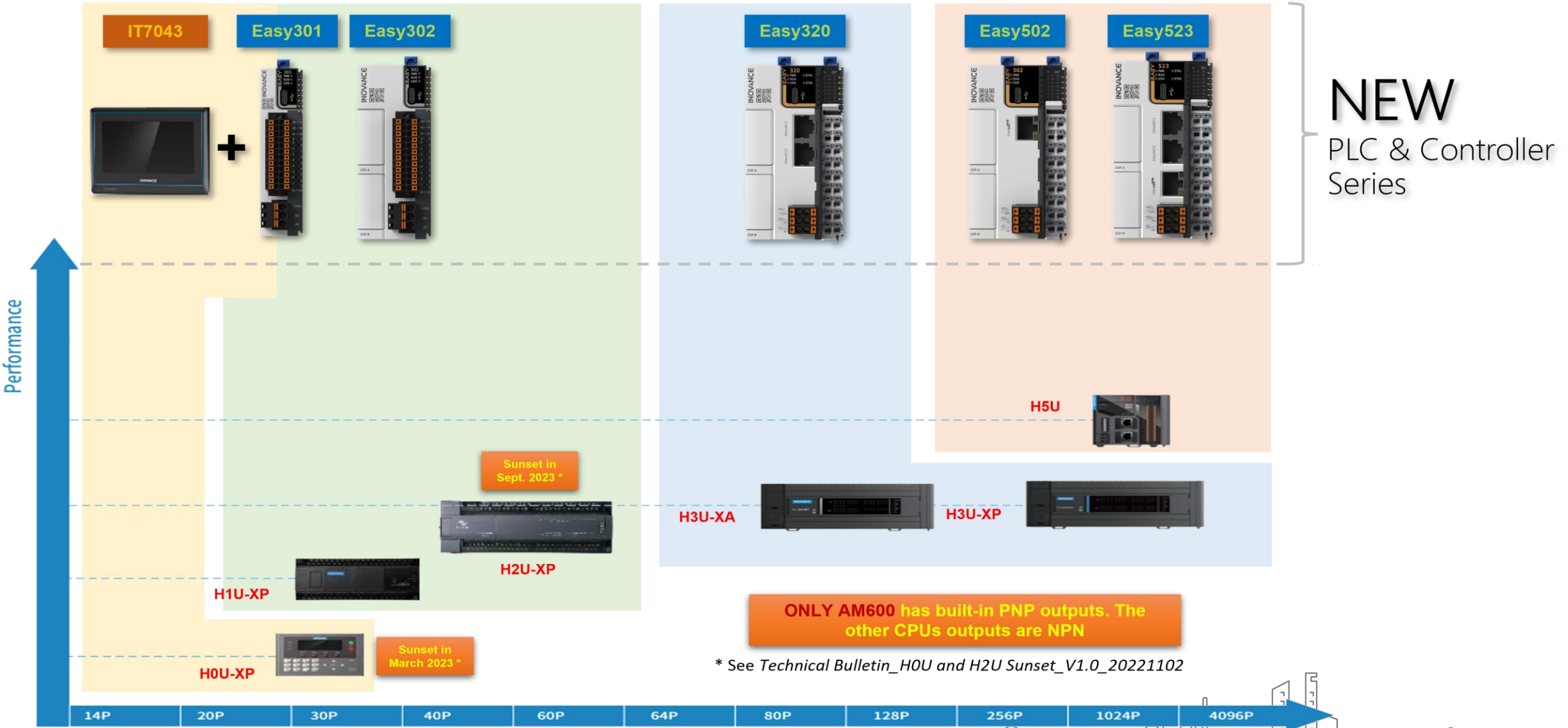


EASY PLC and GL/GE20 expansion modules

Introduction – Nov 2022



EtherCAT

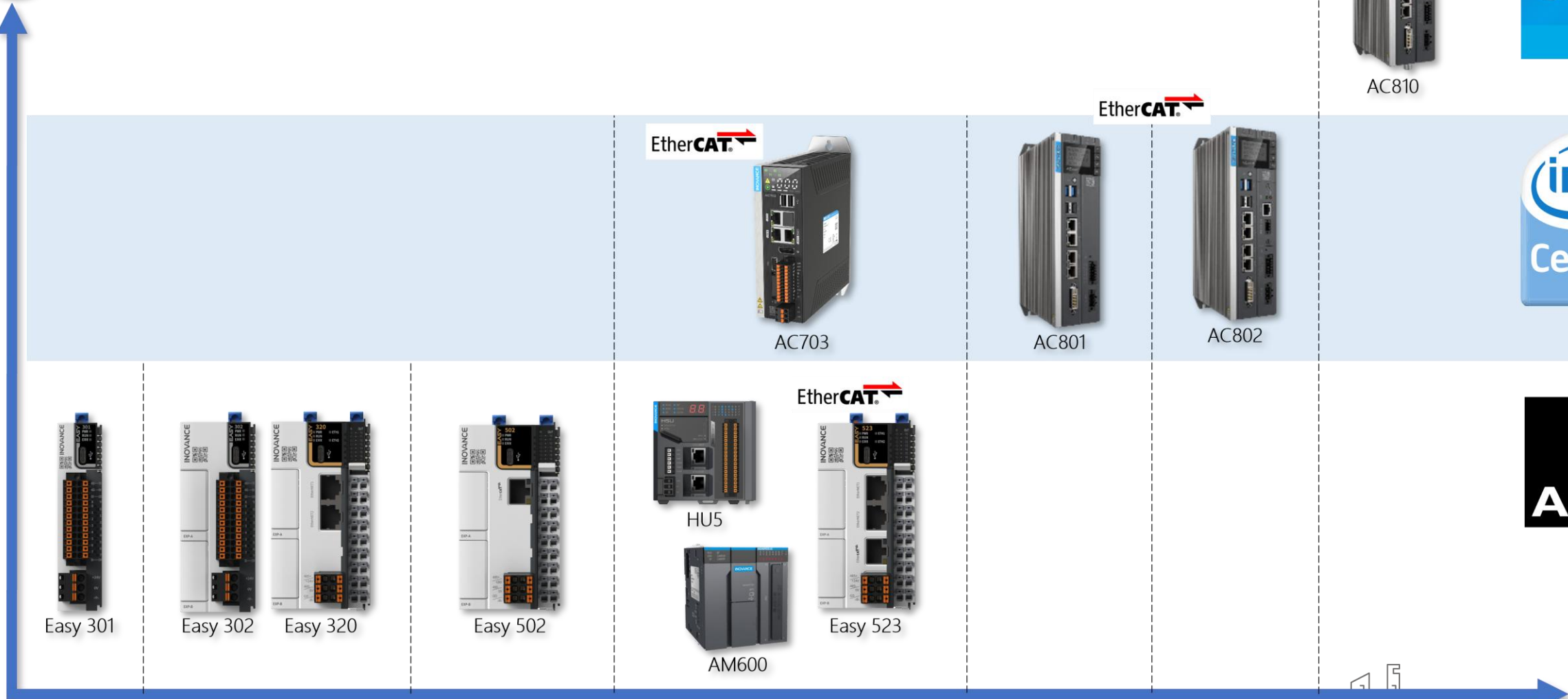


NEW
PLC & Controller Series

* See Technical Bulletin_H0U and H2U Sunset_V1.0_20221102

Performance Vs. Motion Axes

INOVANCE



Easy 301

Easy 302

Easy 320

Easy 502

HU5

AM600

Easy 523

AC703

AC801

AC802

AC810

4 5 16 32 48 64+64 128 + 128



Axes

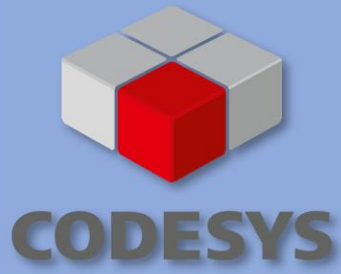


EtherCAT

EtherCAT

EtherCAT

EtherCAT



PLCopen[®]
logic
ST LD
SFC CFC*
IEC 61131-3



AM600



AC703

Ether**CAT**[®]



AC801



AC802



AC810

PLCopen[®]
motion control

AUTO

INOVANCE

INOVANCE
LD
SFC
ST*



HU5



Easy 301



Easy 302



Easy 320








Easy 502



Easy 523





*ST functionality is expected to be available at end of 2022



PLATFORM	PLC	INTERFACES				PROTOCOLS						
		RS485	RS232	CAN	LAN	EtherCAT	CANopen CANlink	Modbus TCP	Modbus RTU	EtherNet/IP	OPC UA	PROFINET
	AM401	●		●	●	●	● MASTER	● MASTER SLAVE	● MASTER SLAVE	● SCANNER ADAPTER		
	AM402	●		●	●	●	● MASTER	● MASTER SLAVE	● MASTER SLAVE	● SCANNER ADAPTER		
	AM403	●		●	●	●	● MASTER	● MASTER SLAVE	2 CH ● MASTER SLAVE	● SCANNER ADAPTER		
	AM600	●		●	●	●	● MASTER	● MASTER SLAVE	2 CH ● MASTER SLAVE	● SCANNER ADAPTER		
	AC800	●	●	○	●	●	○ MASTER	2 CH ● MASTER SLAVE	2 CH ● MASTER SLAVE	● SCANNER ADAPTER	● SERVER	
	AC703	●			●	●		2 CH ● MASTER SLAVE	● MASTER SLAVE	● SCANNER ADAPTER	● SERVER	
	H5U	●		●	●	●	● MASTER SLAVE	● MASTER SLAVE	● MASTER SLAVE	● SCANNER ADAPTER		● SLAVE
	Easy301	●	●				○ MASTER SLAVE		● MASTER SLAVE			
	Easy302	●	●	○			○ MASTER SLAVE		● MASTER SLAVE			
	Easy320	●	○	○	●	●	○ MASTER SLAVE	● MASTER SLAVE	● MASTER SLAVE	● SCANNER ADAPTER		
	Easy502	●	○	○		●			● MASTER SLAVE			
	Easy523	●	○		●			● MASTER SLAVE	● MASTER SLAVE	● SCANNER ADAPTER		

● Available ○ Optional ● Under development



PLATFORM	PLC	CERTIFICATIONS			
		CE	UL	EAC	K
	AM600	●	●		●
	AC800	●	●	●	
	AC703	●	●		
	H5U	●	●	●	
	Easy300	●	●		
	Easy500	●	●		

● Available ● Under validation



EASY series PLC



Easy300

Easy500



<p>Ultra Compact CPU Easy301 RS232+RS485</p>	<p>General CPU Easy302 RS232+RS485</p>	<p>CPU with Ethernet Easy320 Dual Ethernet+RS485</p>	<p>Motion Control CPU Easy501/502 EtherCAT+RS485</p>	<p>Motion Control CPU with Ethernet Easy521/Easy522/Easy523 Dual Ethernet+EtherCAT+RS485</p>
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Easy programming

Customized FB/FC, self defined variable, programming assistant...



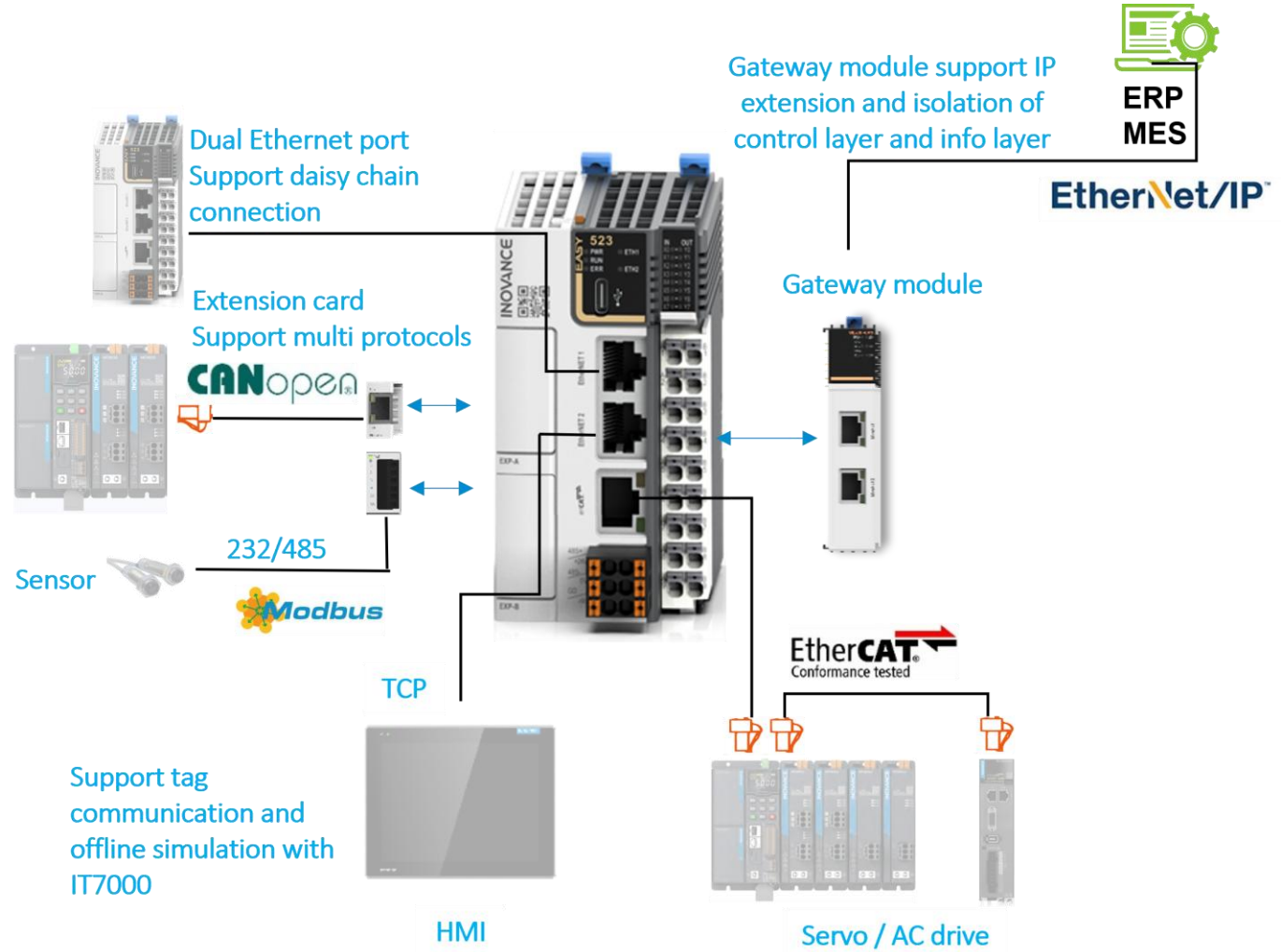
Easy Wiring

Plug directly, spring clamp terminal



Easy Commissioning

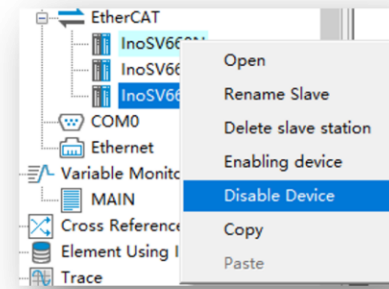
Auto device scanning, easy to configuration, servo debug without programming, offline simulation



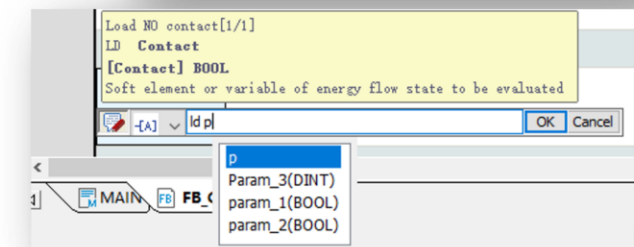
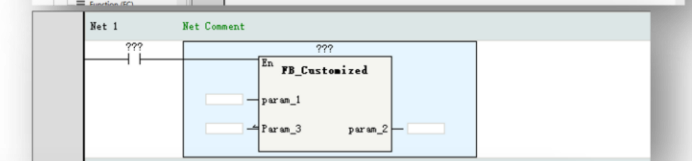
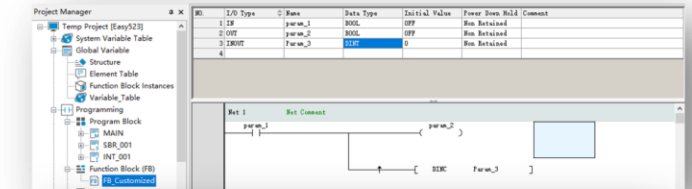
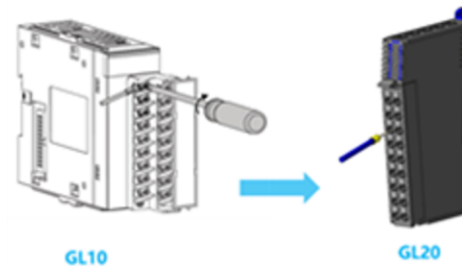
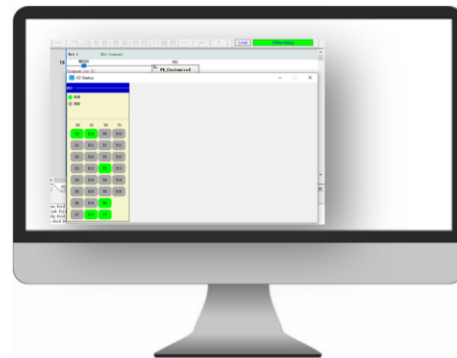
Easy Series PLC – Features

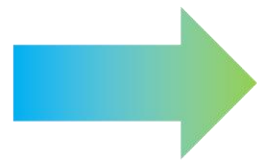
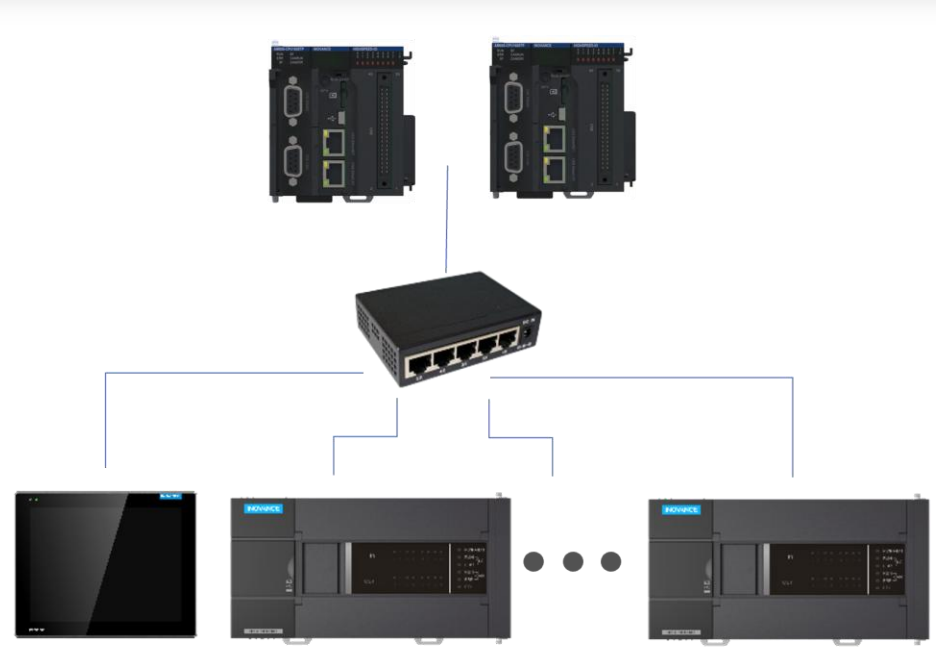
INOVANCE

- Support customized function block and variable, and the function block can be **reused easily**
- Support **ST** structure text language programming, improve the programming efficiency.
- Support **offline simulation**, debug project without connecting to hardware, and offline simulation with HMI(IT7000)
- Support instruction and variable **input assistance**
- Push-in terminal, wiring **without screw**
- ‘Blade type’ compact IO extension modules(GL20), plug directly and removable terminal, **fast replacement** efficiency
- **Type-C port** work as programming port, support program uploading/downloading and debugging
- EtherCAT slave disable/enable functionality—same program applicable to **different** devices



```
8 IF (Save_Dispenser_Start = BOOL#TRUE) THEN
9
10 Using_Product.Dispense_Begin_Pos[0]:=X_A
11 Using_Product.Dispense_Begin_Pos[1]:=Y_A
12 END_IF;
13
14 IF (Save_Left_Start = BOOL#TRUE) THEN
15
16 Using_Product.Mark_Pos_Left[0]:=X_ACT_Po
17 Using_Product.Mark_Pos_Left[1]:=Y_ACT_Po
18 END_IF;
19
20 IF (Save_Right_Start = BOOL#TRUE) THEN
21
22 Using_Product.Mark_Pos_Right[0]:=X_ACT_F
```

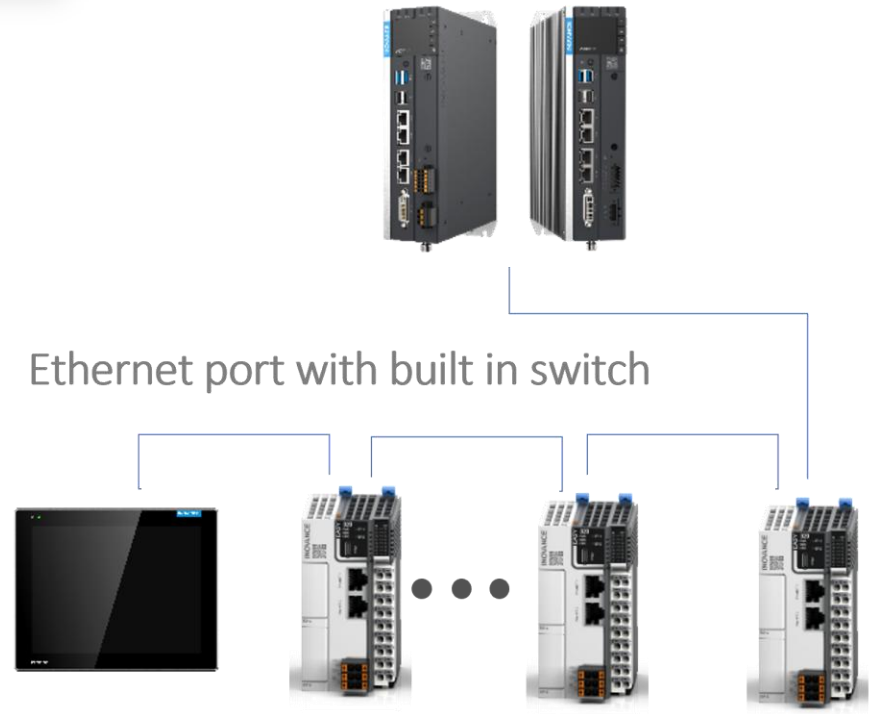




Traditional Solution:

One master + switch + multi slaves

Disadvantage: need extra switch, and there is limitation for the connection quantities



New Solution:

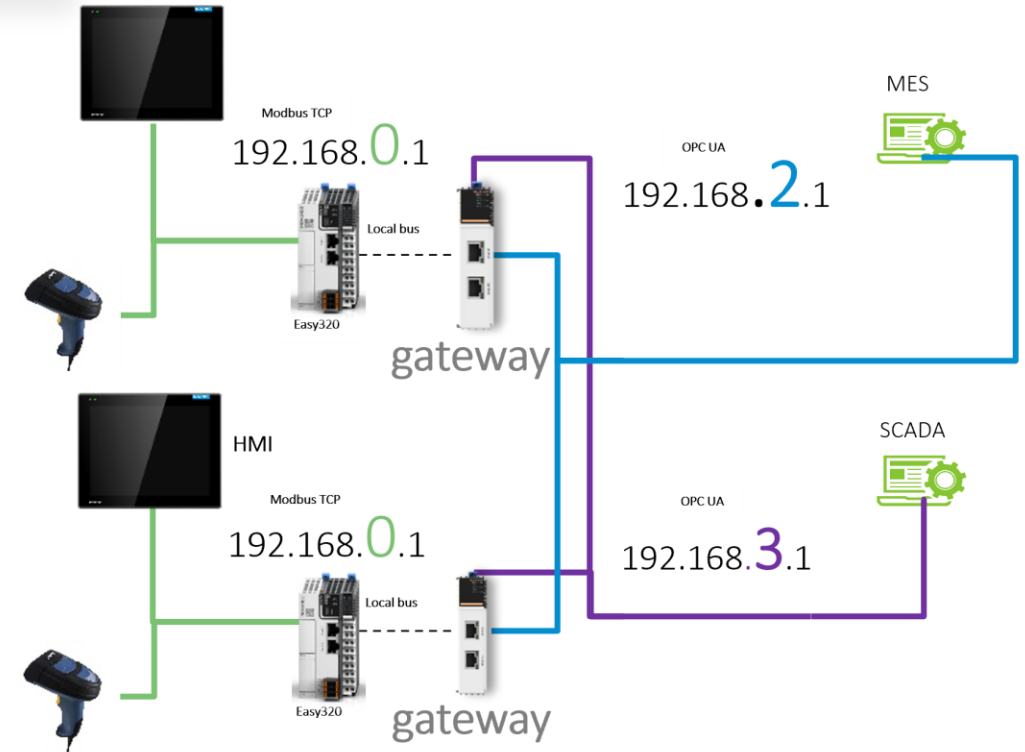
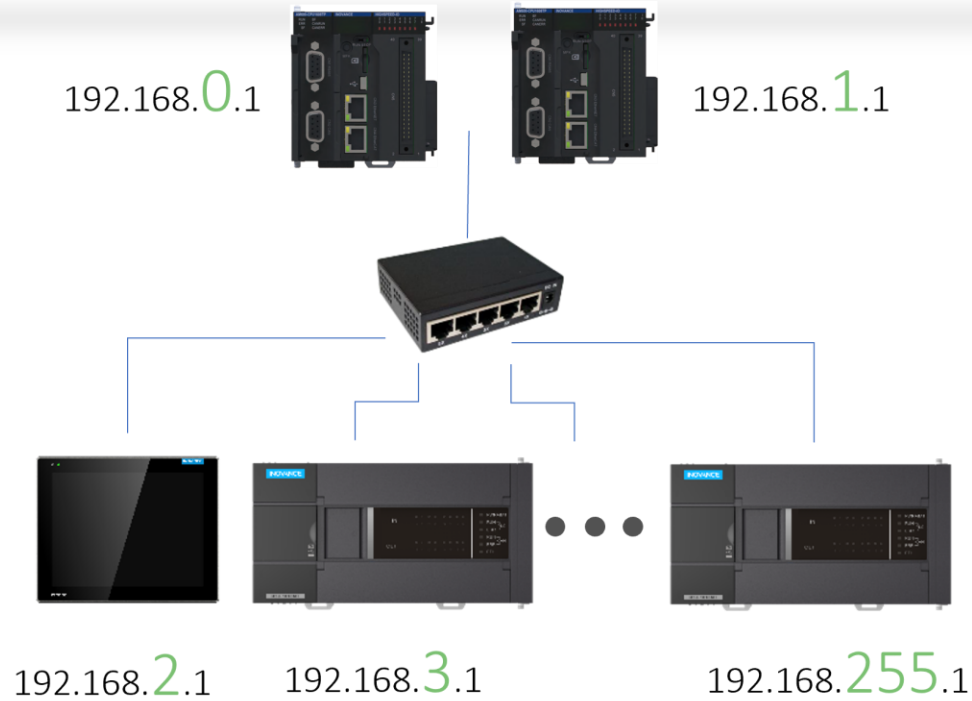
One master + ~~switch~~ + multi slaves

Advantage: no need extra switch, and there is no limitation for the connection quantities

* need consider the max slaves that master can support



Easy Series PLC features – IP extension using gateway module



Many device on site, the control port/programming port is **mixed** with communication port

Control layer is **safely separated** with information interactive layer via using difference IP address

Gateway module to expense IP address, realize the isolation of info layer and control layer

*Gateway module is expected to be available at end of 2022



Easy Series PLC – Specification

Item	Easy300			Easy500				
	Easy301-0808TN	Easy302-0808TN	Easy320-0808TN	Easy501-0808TN	Easy502-0808TN	Easy521-0808TN	Easy522-0808TN	Easy523-0808TN
Motion axis	4 pulse control axis	5 pulse control axis	5 pulse control axis	8 Pulse control axis + EtherCAT axis	16 Pulse control axis + EtherCAT axis	8 Pulse control axis + EtherCAT axis	16 Pulse control axis + EtherCAT axis	32 Pulse control axis + EtherCAT axis
Extension module	8	16						
Left side extension	--	2(Support communication/digital IO/analog IO/TF card/RTC)						
Ethernet	--	--	2 Modbus TCP up to 32 slaves	--	--	--	--	2 Modbus TCP up to 32 slaves
			EIP(under development)					EIP(under development)
EtherCAT	--			Support up to 72 slaves				
Serial communication	1 x RS232 1 x RS485 Support free protocol, Modbus RTU/ASC support up to 16 slaves	1 x RS232, 1 x RS485 Support 1 x RS232 /485 extension and 1 x CAN extension Support free protocol, Modbus RTU/ASC 16 slaves(recommend)	1 x RS485 Support 2 x RS232 /485 extension and 1 x CAN extension Support free protocol, Modbus RTU/ASC 16 slaves(recommend)	1 x RS485 Support 2 x RS232 /485 extension and 1 x CAN extension Support free protocol, Modbus RTU/ASC 16 slaves(recommend)		1 x RS485 Support 2 x RS232 /485 extension and 1 x CAN extension Support free protocol, Modbus RTU/ASC 16 slaves(recommend)		
CAN communication	--	1(need extension card), support CANlink/CANopen(up to 62 slaves)						
Program storage	128K step			200k step		200k step		
Data storage	1Mbyte (128KB non-volatile)		1.5Mbyte (128KB non-volatile)			2Mbyte (128KB non-volatile)		
	150KB soft element, non-volatile after No.1000							
Instruction execution time	20K step / 2ms					20K step / 1.6ms		
Dimensions(WxHxD:mm)	24x100x83	40x100x83	53x100x80					
Other interface	Type C	Type C, TF card(need TF card extension module)						
CAM and interpolation	--	Support CAM and interpolation motion						
Encoder axis	4 channel encoder axis (8 x high speed inputs, up to 200KHz)							
Built in IO	8 input / 8 output (NPN-type)							
Programming language	LD, SFC, FB/FC (support encryption functionality), ST(under development)							
Power input	DC24V							



GL/GE 20 Expansion modules



GL20 expansion modules

The GL20 series is a high performance remote terminal control system, which realizes remote monitoring and data acquisition of equipment through real-time reliable industrial ethernet bus. The compact design ensures more I / O interfaces for smaller product volumes; the plug type and extractable structure allow users to more efficiently complete module assembly or replacement tasks without any tools, removable terminal design allows users to maintain without rewiring, greatly saving installation and maintenance time.



- Great performance with ultra fast response
- More stable and reliable designation
- Compact size and wiring without tool
- Abundant variants used for different system



Great performance with ultra fast response

- Microsecond level response
- Synchronous control

Compact size and wiring without tool

- Compact size
- Fast installation
- Fast replacement

- Stable connection
- Gold plating process
- Safety and reliability

More stable and reliable designation

Abundant variants used for different system

- Multiple protocol
- Abundant variants

NEW Generation Distributed I/O System

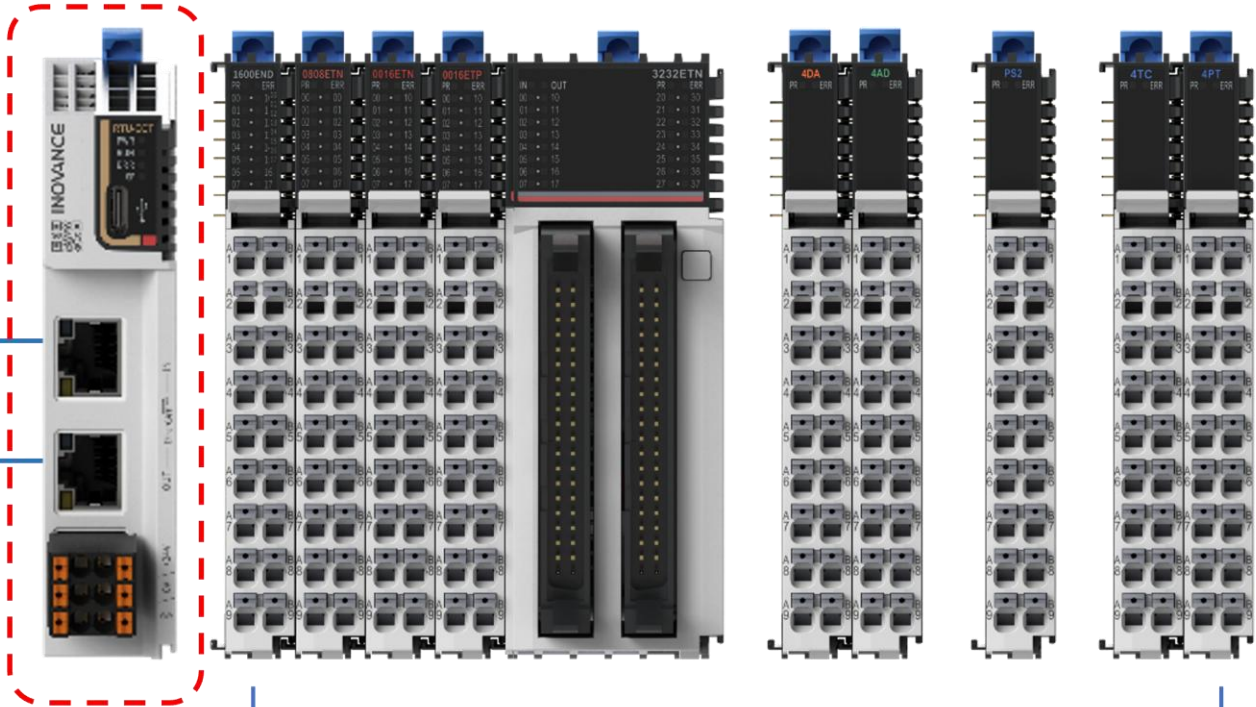


GL20 blade type modules



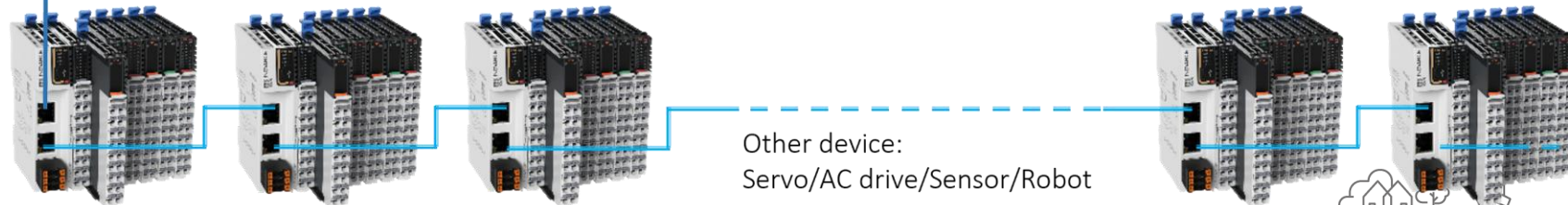
GL20 expansion module – Overview, EtherCAT

Controller: Inovance AC8xx/AC7xx/AM600/AM400/Easy/H5U or third-party device which can support EtherCAT



GL20-RTU-ECTA

GL20 series module



Other device:
Servo/AC drive/Sensor/Robot

Other device:
Servo/AC drive/Sensor/Robot

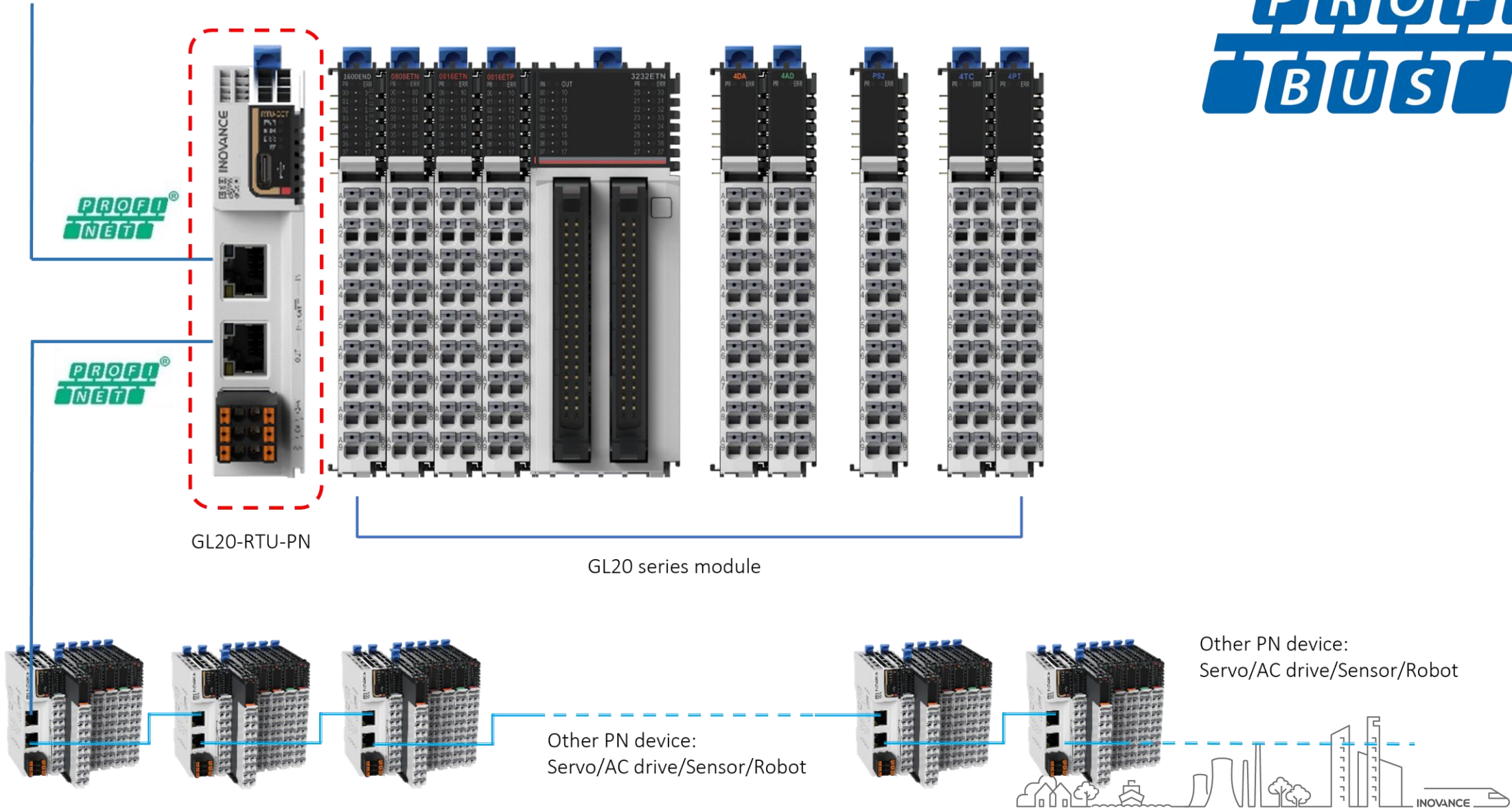


GL20 expansion module – Overview, Profibus

INOVANCE

PROFI[®] BUS

Controller: SIEMENS S7-2XX/S7-12XX/S7-15XX



GL20-RTU-PN

GL20 series module

Other PN device:
Servo/AC drive/Sensor/Robot

Other PN device:
Servo/AC drive/Sensor/Robot





GL20-RTU-ECTA

Item	Description
Size(WxHxD:mm)	24×100×83
Max extended modules	16
Protection	Over current/reverse connection protection
Temperature	-20~55°C
Ambient humidity	Less than 95% and no condensation
IP level	IP20
Power supply	24Vdc

Features

- Non-volatile configuration parameters
- Type C port for firmware upgrading
- Fault diagnosis for each channel
- Output modules support software filter
- Flexible PDO setting to support 1bit/8bit/16bit variable(0016/1600 modules)
- EtherCAT supported
- Min cycle of coupler is up to 125 microsecond

EtherCAT®

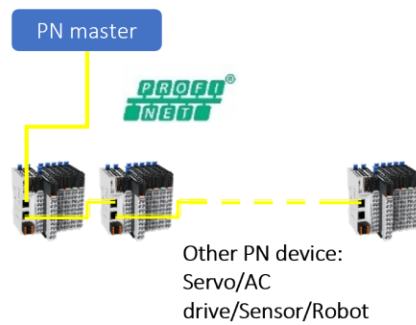


Item	Description
Size(WxHxD:mm)	24×100×83
Max extended modules	16
Protection	Over current/reverse connection protection
Operation temperature	-20~55°C
Ambient humidity	Less than 95% and no condensation
IP level	IP20
Memory(device) share	
Process data	I/O 1440 bytes
RT	Yes, up to 1ms cycle
Fast start up	
MRP(Medium redundancy protocol)	
Ethernet port	2 x RJ45
Communication rate	10/100M, full duplex
Transmission distance	100 meters

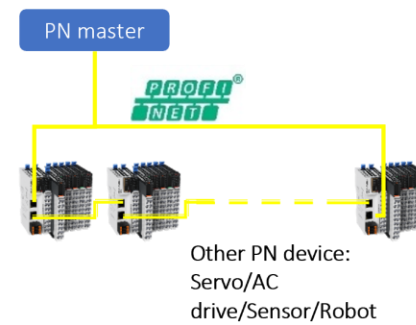


GL20-RTU-PN

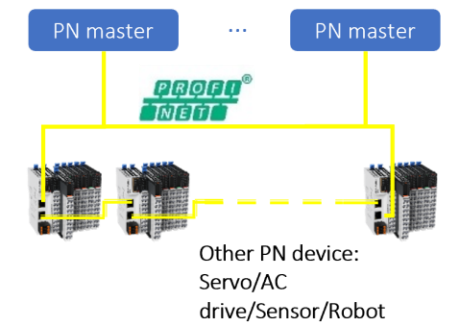
*TAKE NOTE PN coupler is not available for now



✓ Comm mode : RT
Min cycle : 1ms



✓ MRP
Up to 50 devices

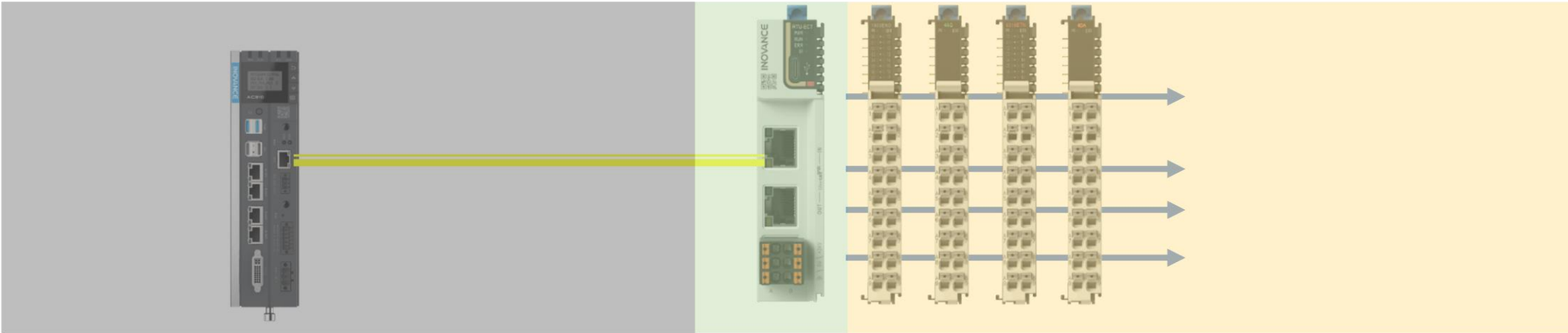


✓ Memory(device) share





NO NEED extra coupler while use with Easy CPUs



Control cabinet

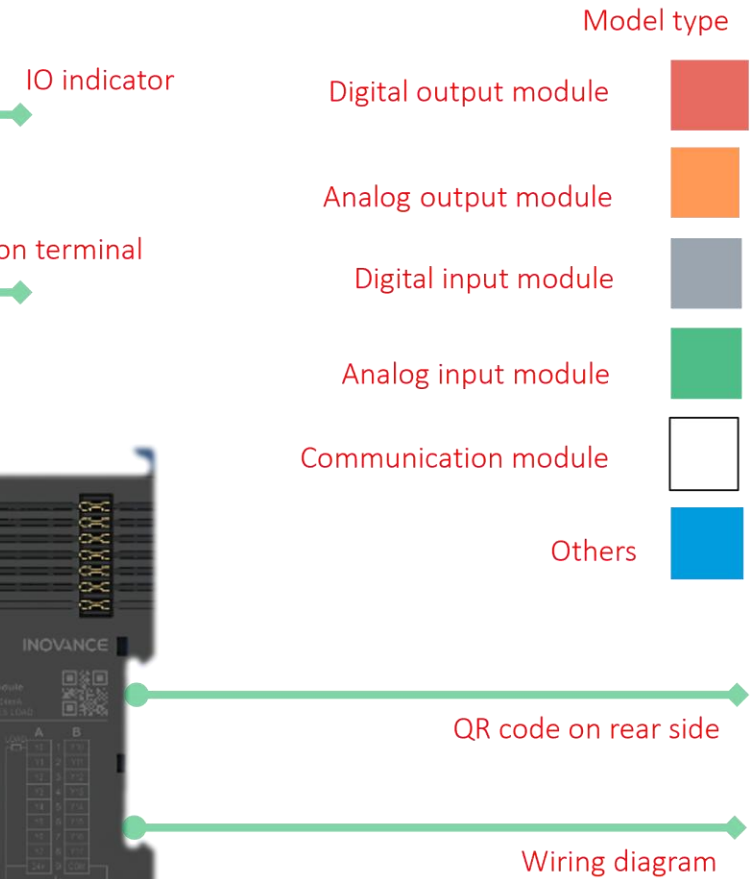
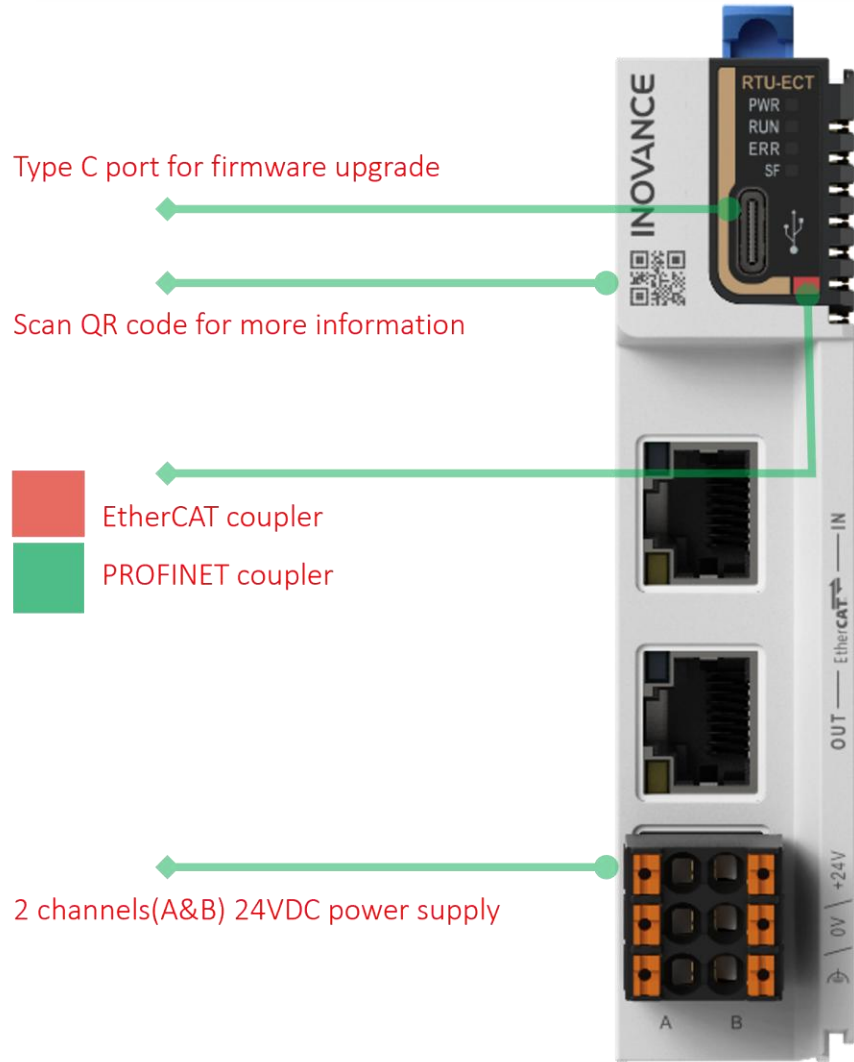
Coupler

Up to 16 extension modules

NEED extra coupler(EtherCAT/PN) while use with other CPUs



GL20 expansion modules – Appearance, Common indicators

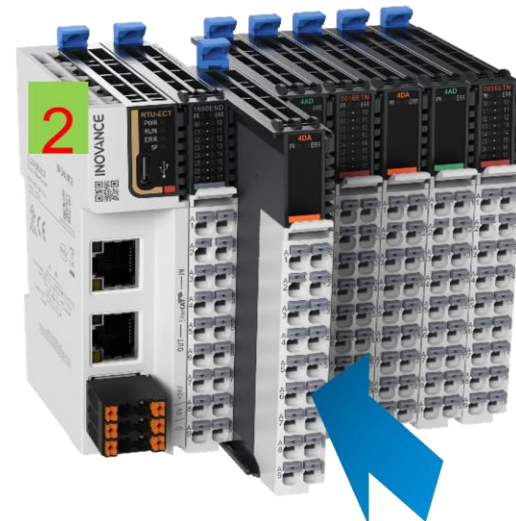
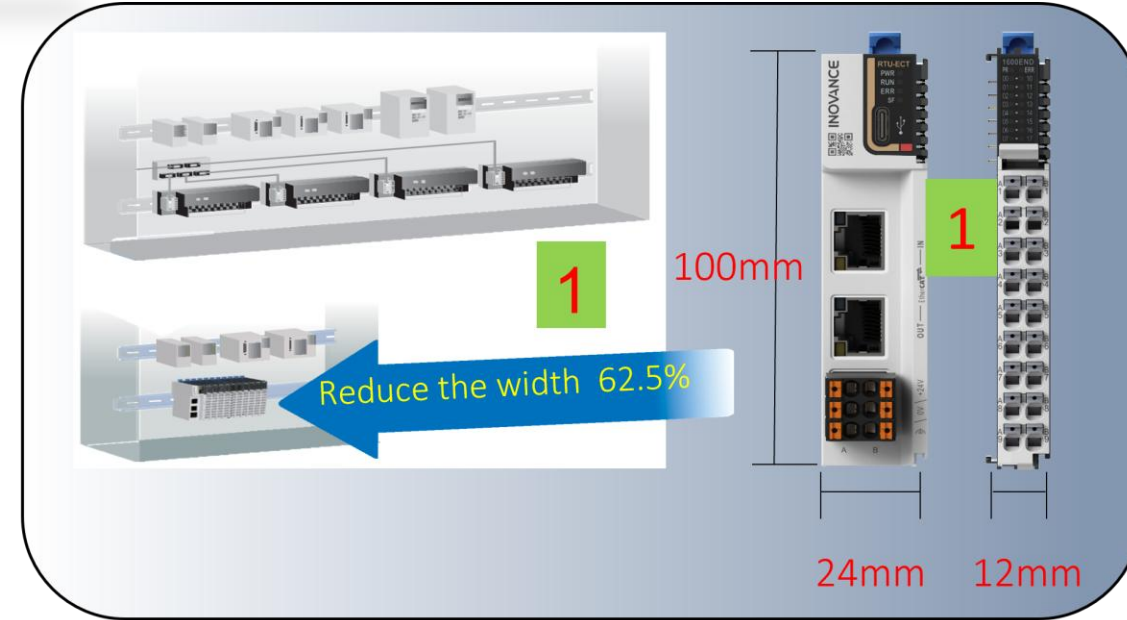


1. Compact Size

- Up to 12mm width, blade type structure
- Save 2/3 cabinet installation space

2. Faster installation

- Support vertically plug in-out, save 76% Installation time cost
- The installation time for GL10 modules is around 120 seconds/per module whereas the time for GL20 is around 20 seconds/per module
- Push in spring clamp type terminal, wiring without any extra tool
- Allow for a larger wire diameter, 5% larger than competitors(1.5mm)



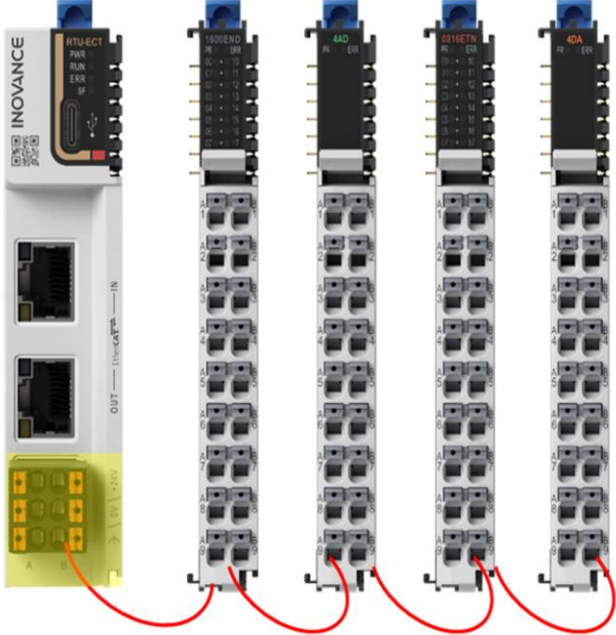
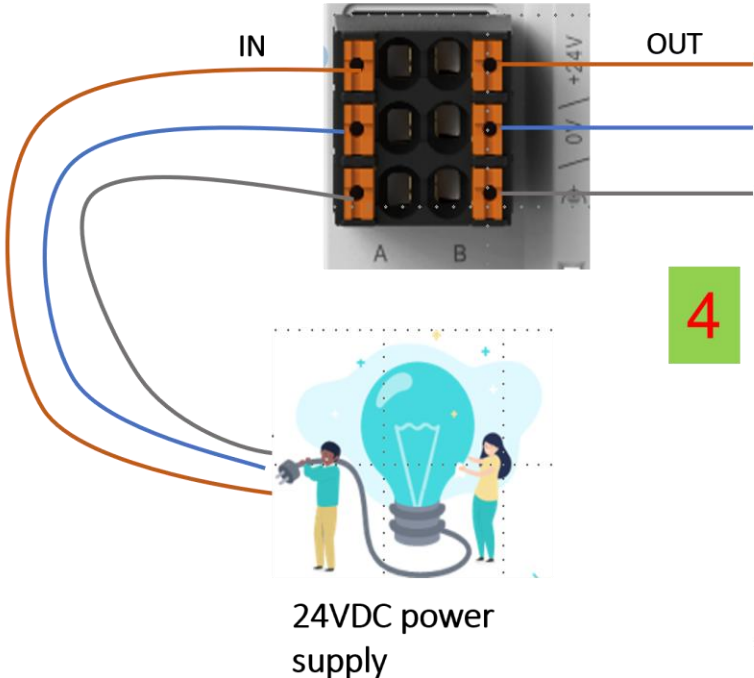
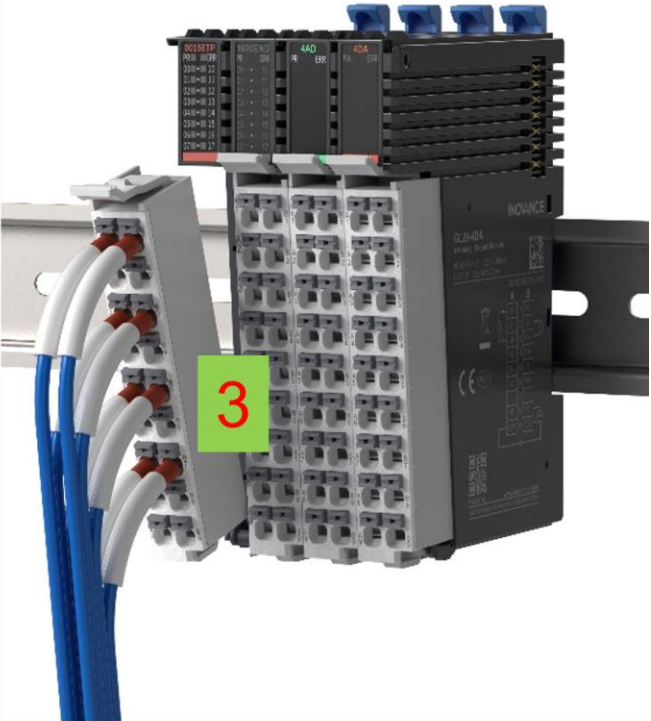
GL20 expansion modules – Advantage

3. Removable terminal

- Dedicated removable spring type terminal

4. Easy connection for power supply

- Integrated 2 channels(A/B) 24VDC power supply terminal, NO NEED extra PSU module



5. More stable and reliable connection

- Dual side clamping designation improve stability and reliability



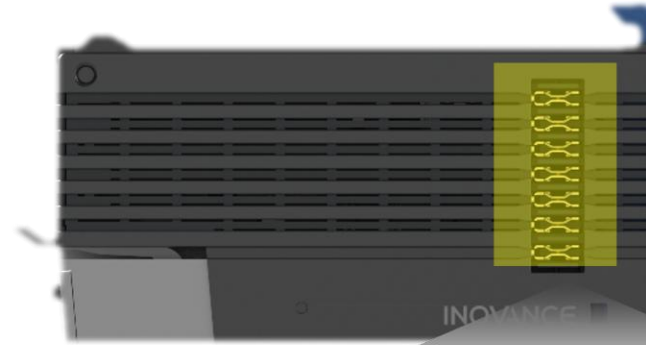
Competitor A



NOT ALLOW to touch the metal spring connection plate



Competitor B



The connection clamp is INSIDE the slot to prevent users to touch the connector, and the GOLD PLATING PROCESS to improve the corrosion resistance

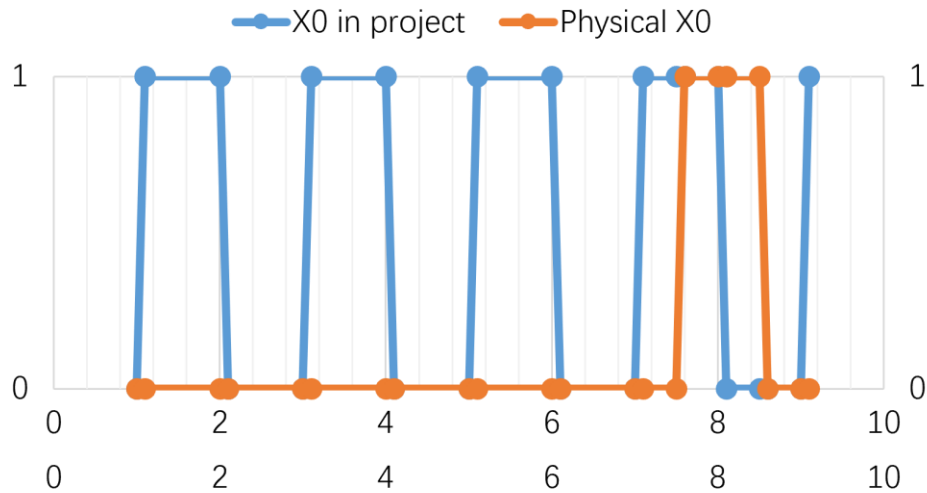


6. Faster response

- IOs in project are **synchronous** with physical IOs (with an execution cycle over 500 microsecond)

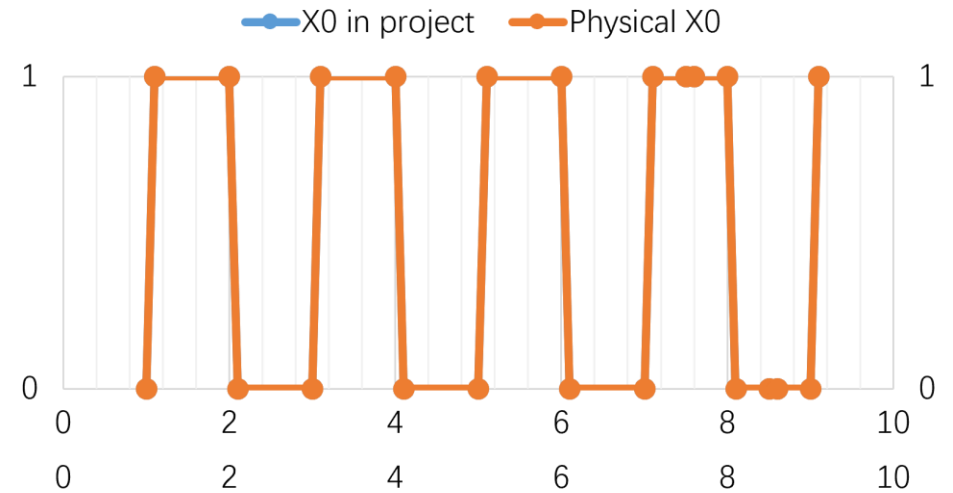
GL10 Modules

asynchronous refresh



GL20 Modules—up to 125 microsecond cycle

synchronous refresh



GL10 Modules	GL20 Modules
Larger size	compact size to save installation space
Screw type terminal	Push in spring clamp type terminal
need extra PSU	no need extra PSU, 2 channels power supply terminal(1 x IN/1 x OUT)
pinhole type connection terminal	dual side clamp type connection terminal with gold plating process, much more stable and reliable
mini B port for firmware upgrade	type C port for firmware upgrade
need to remove modules horizontally to uninstallation/replacement	plug in-out in vertical direction directly, no need extra operation



- Local bus communication rate up to 100Mbps, 10 times higher than GL10
- DIOs hardware response time within 100 microsecond
- AIOs capture cycle up to 62.5 microsecond



GL20 expansion modules	
Power supply module	
GL20-PS2	NOT available for now, PSU module
Digital inputs modules	
GL20-0800END	8 x sink/source digital inputs module, spring clamp
GL20-1600END	16 x sink/source digital inputs module, spring clamp
GL20-3200END	NOT available for now, expected trial test at Nov, 2022
Digital outputs modules	
GL20-0008ETN	8 x sink transistor outputs module, spring clamp
GL20-0008ETP	8 x source transistor outputs module, spring clamp
GL20-0008ER	8 x relay outputs module, spring clamp
GL20-0016ER	NOT available for now
GL20-0016ETN	16 x sink transistor outputs module, spring clamp
GL20-0016-ETP	16 x source transistor outputs module, spring clamp
GL20-0032ETN	NOT available for now, expected trial test at Nov, 2022
Digital inputs/outputs modules	
GL20-0808ETN	8 x inputs + 8 x outputs, NPN, spring clamp
GL20-3232ETN	NOT available for now. 32 x inputs + 32 x outputs, NPN, NEED extra connection cable or terminals, expected trial test at Nov, 2022
Analog inputs/outputs modules	
GL20-4AD	4 x analog inputs module, spring clamp
GL20-4DA	4 x analog outputs module, spring clamp
Temperature detection modules	
GL20-4PT	4 x thermal resistor temperature detection module, spring clamp
GL20-4TC	NOT available for now, expected trial test at Nov, 2022
EtherCAT coupler module	
GL20-RTU-ECT	EtherCAT (auto scan) communication module, RJ45 LAN port
PROFINET coupler module	
GL20-RTU-PN	ProfiNET communication module
Communication module	
GL20-2S485-N	NOT available for now, 2 channels RS485 communication module, expected trial test at Nov, 2022



ECT coupler	Power input	Rated current	Dimensions (W*H*D)	Take note
GL20-RTU-ECT	DC24V	0.6A	24*100*75mm	NOT compatible with GL10 modules

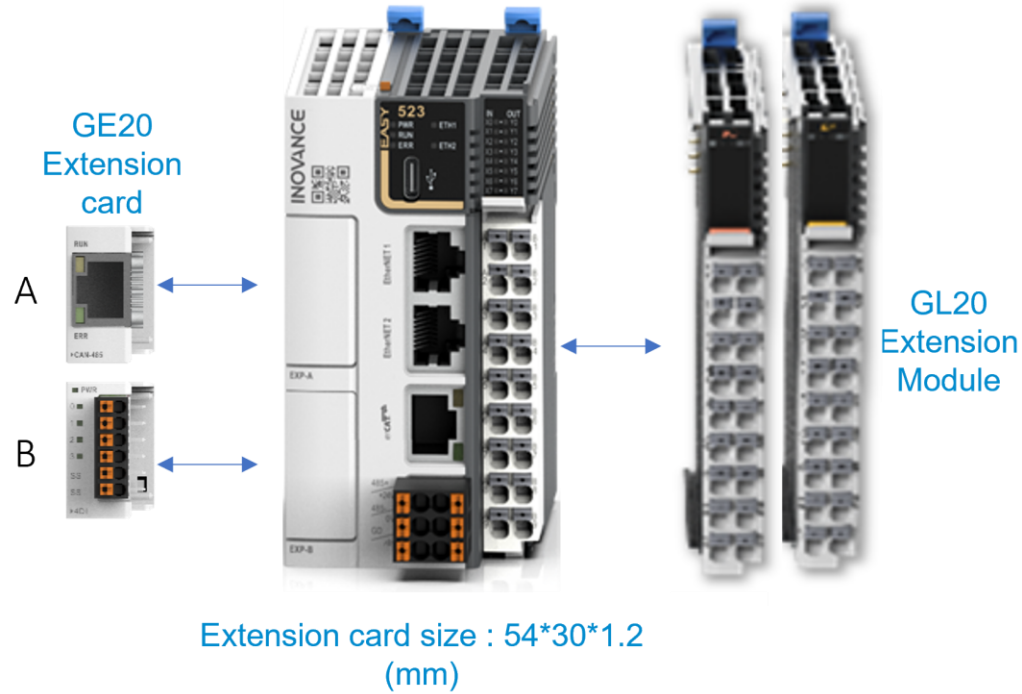
IO modules	Input / Output	Power input	Hardware response time(ON/OFF)	Others	Dimensions(W*H*D)
GL20-0016ETN	16 channels sink output	DC24V	100us/100us	Short circuit/over current protection	12*100*75mm
GL20-1600END	16 channels sink/source output	DC24V	100us/100us	Adjustable filter time	12*100*75mm
GL20-0016ETP	16 channels source output	DC24V	100us/100us	Short circuit/over current protection	12*100*75mm

Analog input modules	Input / Output	Power input	Capture cycle	Input accuracy (25°C)	Voltage input range	Current input range	Dimensions (W*H*D)
GL20-4AD	4 channels analog inputs	DC24V	125us/2 channels	±0.1% (full range)	±10V,0-10V, ±5V, 0-5V	±20mA, 0-20mA, 4-20mA	12*100*75mm

Analog input modules	Input / Output	Power input	Capture cycle	Input accuracy (25°C)	Voltage input range	Current input range	Dimensions (W*H*D)
GL20-4DA	4 channels analog outputs	DC24V	125us/2 channels	±0.1% (full range)	±10V,0-10V, ±5V, 0-5V, 1-5V	0-20mA, 4-20mA	12*100*75mm

*Easy series can only use GL20 modules with local bus extension, to use GL10 modules, need an EtherCAT coupler GL10-RTU-ECT





- RS485 connection recommend not over 31 slaves
- CANopen support up to 62 slaves
- CANlink support up to 62 slaves
- Modbus TCP support up to 32 slaves(work as client/master)
- Modbus TCP support up to 16 master(work as server/slave)
- Support up to 3 serial port(including extension card)

Left size extension card	Description	Slot A	Slot B
GE20-4DO-TN	4 channel sink outputs	√	√
GE20-4DI	4 channel source/sink inputs	√	√
GE20-232/485-RTC	RS232/485 extension card with RTC		√
GE20-232/485	RS232/485 extension card	√	√
GE20-CAN-485	CAN/RS485 extension card with RJ45 interface	√	
GE20-RTC	RTC extension card		√
GE20-TF	TF extension card		√
GE20-2AD1DA-I	2 analog inputs and 1 analog current output	√	√
GE20-2AD1DA-V	2 analog inputs and 1 analog voltage output	√	√



Appearance



Model	GE20-4DO-TN
Description	4 channels output module
Slot	A/B
IP level	IP20
Operation temperature	-20 °C~55 °C
Output type	digital transistor
source/sink(PNP/NPN)	sink(NPN)
Channel	4
Output voltage	24V DC (20.4V DC~26.4V DC)
Output(resistance load)	0.5A/point, 1A/common point
Output(inductance load)	6w/24V DC (in total)
Output(lamp load)	1w/24V DC (in total)
Hardware ON/OFF response	within 100us
Leakage current(ON->OFF)	10uA below
Frequency	resistance load: 100Hz, inductance load: 0.5Hz, lamp load: 10Hz
Isolation	opto-isolation
Protection function	Surge suppression

GE20-4DO-TN

Appearance



Model	GE20-4DI
Description	4 channels input module
Slot	A/B
IP level	IP20
Operation temperature	-20 °C~55 °C
Input type	digital transistor
source/sink(PNP/NPN)	source/sink
Channel	4
Input voltage	24V DC±10% (21.6V DC~26.4V DC)
Input resistance	5.6kΩ
ON current	> 3.5mA
OFF current	< 1.5mA
Input response	≈15ms (hardware RC filter)
ON voltage	≥15V DC
OFF voltage	≤5V DC
Software filter	NOT support
Isolation	opto-isolation

GE20-4DI



Appearance



Model	GE20-2AD1DA-V		
Description	2 channels analog inputs plus 1 channel analog input, voltage type		
Slot	A/B		
IP level	IP20		
Operation temperature	-20 °C ~ 55 °C		
Input type	Analog input	Output type	Analog output
Input mode	Current/voltage	output mode	Voltage
Input Channels	2	output channel	1
Resolution	12bit	Resolution	12bit
Conversion time	6ms/channel	Conversion time	1ms/channel
Input range	0~10v/0mA ~ 20mA	Output range	0~10v
Current input resistance	250Ω	Voltage output resistance	> 2KΩ
Input accuracy (25°C)	Voltage ±1%, Current ±1% (full range)	Output accuracy (25°C)	±1% (full range)
input accuracy (-20 °C ~ 55 °C)	Voltage ±3%, Current ±3% (full range)	Output accuracy (-20 °C ~ 55 °C)	±5% (full range)
Digital input range	0 ~ 20000	Digital output range	0 ~ 20000

GE20-2AD1DA-V



Appearance



Model	GE20-2AD1DA-I		
Description	2 channels analog inputs plus 1 channel analog input, current type		
Slot	A/B		
IP level	IP20		
Operation temperature	-20 °C ~ 55 °C		
Input type	Analog input	Output type	Analog output
Input mode	Current/voltage	output mode	Current
Input Channels	2	output channel	1
Resolution	12bit	Resolution	12bit
Conversion time	6ms/channel	Conversion time	1ms/channel
Input range	0~10v/0mA ~ 20mA	Output range	0mA ~ 20mA
Current input resistance	250Ω	Current output resistance	0Ω ~ 500Ω
Input accuracy (25°C)	Voltage ±1%, Current±1% (full range)	Output accuracy (25°C)	±1% (full range)
input accuracy (-20 °C~55 °C)	Voltage ±3%, Current±3% (full range)	Output accuracy (-20 °C~55 °C)	±5% (full range)
Digital input range	0~20000	Digital output range	0~20000

GE20-2AD1DA-I



Appearance		
Model	GE20-232/485-RTC	GE20-232/485
Description	RS232/RS485 communication card with RTC	RS232/RS485 communication card
Slot	B	A/B
IP level	IP20	IP20
Operation temperature	-20 °C~55 °C	-20 °C~55 °C
RS485/RS232	1	1
Terminal resistor	Set via DIP switch	Set via DIP switch
Comm ability	up to 31 slaves	up to 31 slaves
Baud rate of RS485/RS232	9600/19200/38400/57600/115200bit/s	9600/19200/38400/57600/115200bit/s
RTC accuracy	120 sec/month	/
RTC format	YYYY/MM/DD/HH/MM/SS	/
In-built lithium battery	CR2302, 3 years life cycle, removable	/

GE20-232/485-RTC

GE20-232/485



Appearance



Model	GE20-RTC
Description	RTC extension card
Slot	B
IP level	IP20
Operation temperature	-20 °C~55 °C
RTC accuracy	120 sec/month
RTC format	YYYY/MM/DD/HH/MM/SS
In-built lithium battery	CR2302, 3 years life cycle, removable

GE20-20-RTC

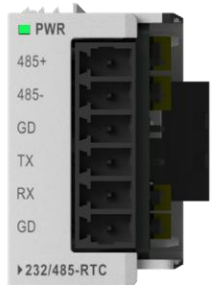
Appearance



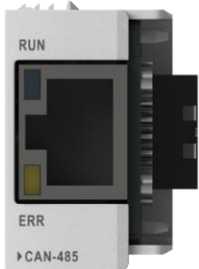
Model	GE20-TF
Description	TF card extension card
Slot	B
IP level	IP20
Operation temperature	-20 °C~55 °C
SD card capacity	NOT over 32G
SD card type	TransFlash (Micro SD)

GE20-TF

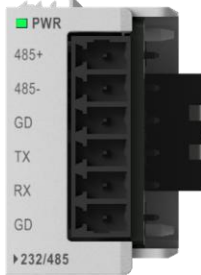




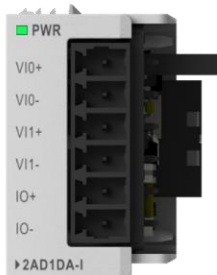
GE20-232/485-RTC



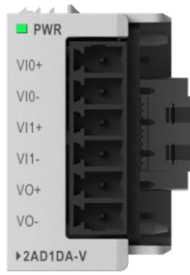
GE20-CAN-485



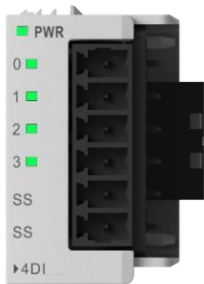
GE20-232/485



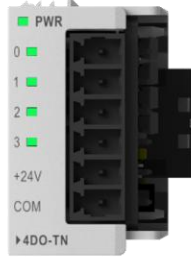
GE20-2AD1DA-I



GE20-2AD1DA-V



GE20-4DI



GE20-4DO-TN



GE20-RTC



GE20-TF



Item	GE20-2AD1DA-I	GE20-2AD1DA-V
Description	2 analog inputs and 1 analog current output	2 analog inputs and 1 analog voltage output
Input conversion speed	6ms/channel	6ms/channel
Input accuracy(25°C)	Voltage $\pm 1\%$, Current $\pm 1\%$ (full range)	Voltage $\pm 1\%$, Current $\pm 1\%$ (full range)
Digital number range	0-20000	0-20000
Current input range	0mA ~ 20mA, 4mA ~ 20mA	0mA ~ 20mA, 4mA ~ 20mA
Voltage input range	0~10V	0~10V
Software filter time	None, 0.25ms, 0.5ms, 1ms (default), 2ms, 4ms, 8ms, 16ms, 32ms	None, 0.25ms, 0.5ms, 1ms (default), 2ms, 4ms, 8ms, 16ms, 32ms
Output conversion speed	1ms	1ms
Output accuracy(25°C)	$\pm 1\%$ (full range)	$\pm 1\%$ (full range)
Output range	0mA~20mA	0~10V
Resolution	12bit	12bit



Item	H0U(sunset)	H1U(sunset soon)	H2U(sunset)	H3U	H5U	Easy301	Easy302	Easy320	Easy501	Easy502	Easy521	Easy522	Easy523
Program capacity	8K steps	16K steps		64K steps	200K steps	128K steps					200K steps		
Data storage (volatile)	10K words		48K words		2M bytes	1M bytes		1.5M bytes			2M bytes		
Data storage (non volatile)	8K words		40K words		256K bytes	128K bytes					128K bytes		
Execution time	100ns/instruction				2 ms/20K steps				1.6 ms/20K steps				
Built-in inputs	16(NPN)	36(NPN/PNP)	64(NPN/PNP)	36(NPN/PNP)	16(NPN/PNP)	8(NPN/PNP)							
Built-in outputs	16(NPN/Relay)	24(NPN/Relay)	64(NPN/Relay)	32(NPN/Relay)	14(NPN)	8(NPN)							
Maximum number of inputs/outputs via expansion modules	--	992(16 * 62, CANlink remote expansion)	1120(16*62, CANlink remote expansion, 16*8, local expansion)	8192(16*16*31, CANopen remote expansion, 32*8, local expansion)	37376(32*16, local expansion + 32*16*72, EtherCAT expansion)	512(64*8, local expansion)	16896(64*16, local expansion + 16*16*62, CANopen remote expansion)		74752(64*16, local expansion + 64*16*72, EtherCAT expansion)				
Analog input resolution	12-bit	12-bit(H2U-4ADR)		16-bit(GL10-4AD)			16-bit(GL20-4AD)						
Analog output resolution							12-bit(GE20-2AD1DA-*)						
Programming languages	IL/LD/SFC				IL/LD/SFC/FBD/ST								
Programming port(s)	USB type B	USB mini B DIN8 (RS422)		USB mini B Ethernet DIN8 (RS422)	USB mini B Ethernet	USB type C		USB type C Ethernet	USB type C			USB type C Ethernet	
Number of motion control axes	2	3	3	5(pulse)+16(CAN link/CANopen)	32 (pulse + EtherCAT)	4	5(pulse)+16(CANopen)	5(pulse)+16(CANopen)	8 (pulse + EtherCAT)	16 (pulse + EtherCAT)	8 (pulse + EtherCAT)	16 (pulse + EtherCAT)	32 (pulse + EtherCAT)
Motion control interface	Pulse			Pulse CANopen CANlink		Pulse	Pulse CANopen		Pulse EtherCAT CANopen			Pulse EtherCAT	

* Left side extension card



Category	Serial communication master			Serial communication slave			Ethernet master/client					Ethernet slave/server					EtherCAT fieldbus		CAN fieldbus master		CAN fieldbus slave			
	RS485	RS232	RS422	RS485	RS232	RS422	MODBUS-TCP	TCP/IP	UDP	OPC UA	EtherNet/IP	MODBUS-TCP	TCP/IP	UDP	OPC UA	EtherNet/IP	EtherCAT Master	EtherCAT Slave	CANOPEN	CANLINK	CANOPEN	CANLINK		
H1U	not over 16 slaves	NA	1 Channel	1 Channel	NA	1 Channel	NA					NA					NA		31(recommend not over 16)	62(recommend not over 16)	1 Channel			
H3U					not over 16 slaves	not over 16 slaves	NA	NA	not over 15 masters	NA														
H5U			NA		not over 32 slaves	not over 32 slaves	NA	NA(FOR NOW)	not over 16 masters	not over 15 masters	not over 16 masters	NA	72 slaves(32 axes)	NA	72 slaves(16 axes)	NA	31(recommend not over 16)	62(recommend not over 16)	1 Channel					
H5U-A16											not over 16 masters		72 slaves(16 axes)											
H5U-A8											not over 16 masters		72 slaves(8 axes)											
H5U-A8S											not over 16 masters		72 slaves(8 axes)											
Easy301			1 Channel		NA																			
Easy302			CPU: not over 16 Extension card(only 1): not over 16		1 Channel	NA	1 Channel	NA																
Easy320	CPU: not over 16 Extension card(only 2): not over 16	NA	1 Channel	NA	not over 32 slaves	NA	NA(FOR NOW)	not over 16 masters			NA	NA(FOR NOW)	NA	NA										
Easy501					NA										72 slaves(8 axes)									
Easy502					NA										72 slaves(16 axes)									
Easy521					NA										72 slaves(8 axes)									
Easy522					not over 32 slaves	NA	NA(FOR NOW)	not over 16 masters	not over 16 masters			NA	NA(FOR NOW)		72 slaves(16 axes)									
Easy523					NA										72 slaves(32 axes)									



INOVANCE

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