INOVANCE

Easy Series PLC

High performance, compact, EtherCAT-enabled PLC

- Compact footprint
- A complete product range – from the simplest to the most complex motion control capable PLC
- PLCopen compliant axis control
- Simulation mode for offline debugging
- Real-time fieldbus

CANopen EtherCAT EtherNet/IP CE cULus LISTED E467455 IND.CONT.EQ

Easy series PLC: a comprehensive product range

Easy300

Easy500

Ultra compact CPU
Easy301
RS232 + RS485

General CPU
Easy302
RS232 + RS485

CPU with Ethernet
Easy320
Dual Ethernet + RS485

Motion control CPU
Easy502
EtherCAT + RS485

Motion control CPU with Ethernet
Easy523 Dual Ethernet
+ EtherCAT + RS485

EASY programming
Customized FB/FC - self defined variable programming assistant

EASY assembly & wiring
Easy to add and/or replace modules. Plug in wires directly with spring clamp terminals

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

The type-C port works as a programming port allowing support programs, uploading/downloading and debugging.

Easy wiring with spring clamp terminals.

‘Slice type’ compact I/O extension modules (GL20). Easy to plug in and remove for fast replacement.

Scalable system architecture

Multiple configurations

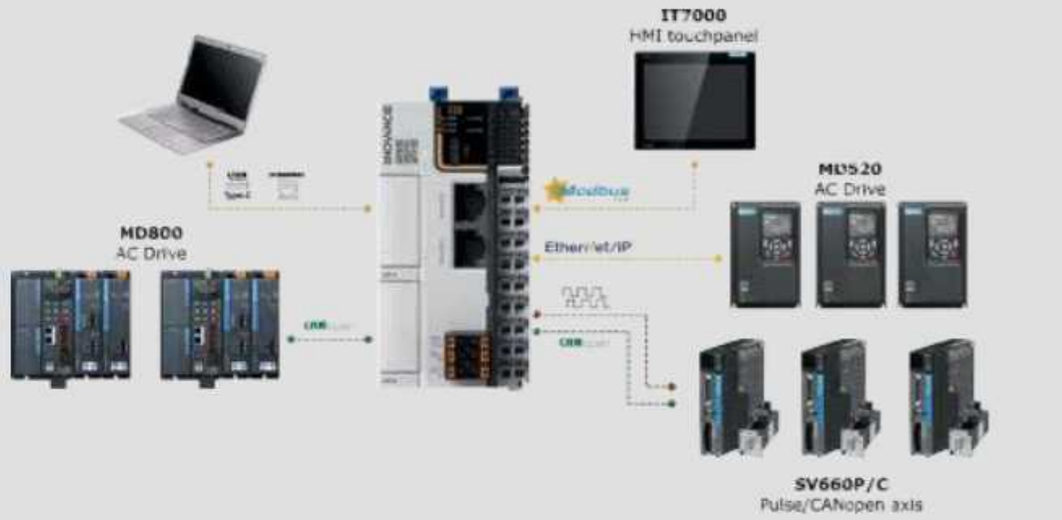
The Easy PLC series can cover anything from the simplest pulse control architecture to the most complex motion control applications using EtherCAT and Ethernet/IP

Easy301

Cost effective architecture using Modbus RTU communication and/or pulses to control the drives.

Easy320

Multiprotocol architecture using Ethernet/IP, CANopen communication and/or pulses to control the drives, and Modbus TCP with the HMI touchpanel



Easy302

Flexible architecture using CANopen communication and/or pulses to control the drives.

Easy523

Powerful motion control architecture using realtime EtherCAT communication and Ethernet/IP to control the drives, and Modbus TCP with the HMI touchpanel

Specifications

Basic specifications of easy series controller

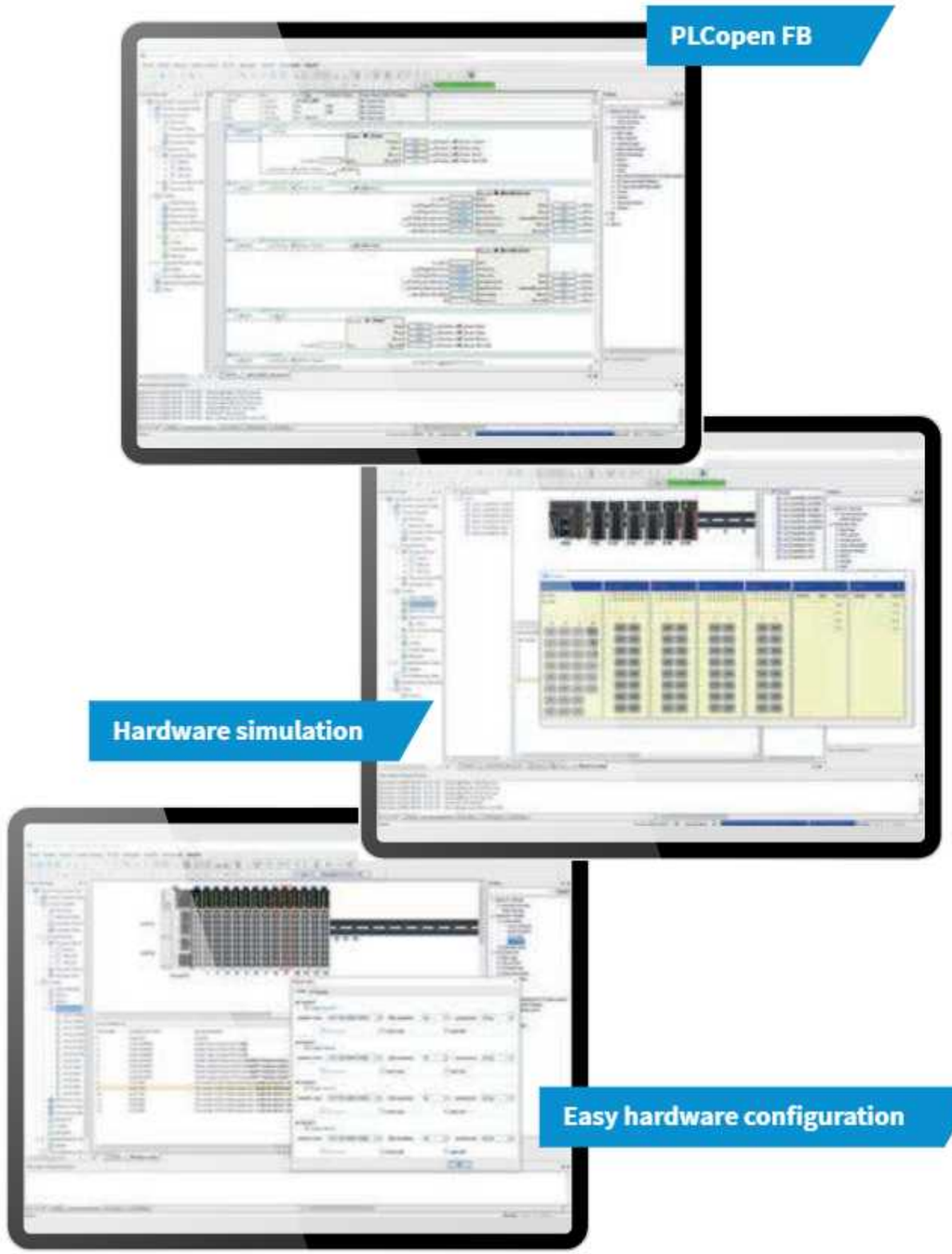
Item	Easy300			Easy500	
	Easy301-0808TN	Easy302-0808TN	Easy320-0808TN	Easy502-0808TN	Easy523-0808TN
Motion axis	4 pulse control axes	5 pulse control axes	5 pulse control axes	A total of 16 synchronised axes are possible. This can be a max. of 16 EtherCAT axes[1], or a combination that includes a max. of five pulse control axes	A total of 32 synchronised axes are possible. This can be a max. of 32 EtherCAT axes[1], or a combination that includes a max. of five pulse control axes
Expansion modules (GL20)	8	16			
Extension slots (GE20)	–	2 (support communication/digital IO/analog IO/TF card/RTC)			
Ethernet	–		2 Modbus TCP up to 32 slaves EIP (under development)	–	2 Modbus TCP up to 32 slaves EIP (under development)
EtherCAT	–			Support up to 72 EtherCAT slaves[2] (including synchronised axes)	
Serial communication	1 x RS232 1 x RS485 Support free protocol, Modbus RTU/ASC 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 (recommended)	1 x RS485 Support 2 x RS232 /485 extension and 1 x CAN extension Support free protocol, Modbus RTU/ASC 16 slaves (recommended)	1 x RS485 Support 2 x RS232/485 extension and 1 x CAN extension Support free protocol, Modbus RTU/ASC 16 slaves (recommended)	1 x RS485 Support 2 x RS232/485 extension Support free protocol, Modbus RTU/ASC 16 slaves (recommended)
CAN communication	–	1 (require extension card), support CANlink/CANopen (up to 62 slaves)			
Program storage	128 K step			200 k step	
Data storage	1 Mbyte (128 KB non-volatile)			2 Mbyte (128 KB non-volatile)	
	150 KB soft element, non-volatile after No.1000				
Instruction execution time	20 K step / 2 ms				20 K step / 1.6 ms
Dimensions (WxHxD: mm)	24x100x83	40x100x83	53x100x80		
Other interfaces	Type C	Type C, TF card (requires TF card extension module)			
CAM and interpolation	–	Supports CAM and interpolation motion			
Encoder axis	4 channel encoder axis (8 x high speed inputs, up to 200 KHz)				
Built in I/Os	8 inputs / 8 outputs				
Programming languages	LD, SFC, FB/FC (support encryption functionality), ST (under development)				
Power supply	DC24V				

[1]Synchronised axes

[2]EtherCAT slaves include I/Os and synchronised and non-synchronised axes

Autoshop

A powerful PC tool is provided as standard



Extension capability

GE20 extension cards

Extension slot A ⟷

Extension slot B ⟷

PLEASE NOTE

- RS485 connection - we recommend not more than 31 slaves
- CANopen supports up to 62 slaves
- CANlink supports up to 62 slaves
- Modbus TCP supports up to 32 slaves (working as client/master)
- Modbus TCP supports up to 16 masters (working as server/slave)
- Supports up to 3 serial ports (including extension card)
- Please note, extension cards are applicable to all CPU models except Easy301, and the CANopen card (GE20-CAN-485) cannot be used with the Easy523 CPU

	Extension card	Description	Slot A	Slot B
	GE20-4DO-TN	4 channel sink outputs	✓	✓
	GE20-4DI	4 channel source/sink inputs	✓	✓
	GE20-2AD1DA-I	2 analog inputs and 1 analog current output	✓	✓
	GE20-2AD1DA-V	2 analog inputs and 1 analog voltage output	✓	✓
	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		✓

Please note: extension card size: 54*30*1.2 (mm)

Expansion capability

GL20 modules – EtherCAT bus coupler

EtherCAT®

- Min. cycle time of 125 microseconds
- Allows EtherCAT alias configuration
- USB-C port for firmware upgrade

Specification	Description
Dimensions (WxHxD:mm)	24×100×83
Max. number of expansion modules	16
Protection	Over current/ reverse connection protection
Operating ambient temperature	-20~55℃
Operating ambient humidity	Less than 95% and no condensation
IP rating	IP20
Power supply	+24 VDC
Process data	Up to 1,024 input bytes and 1,024 output bytes
Mailbox size	Up to 256 input bytes and 256 output bytes
Alias	It admits the configuration of EtherCAT aliases through the master. Expansion modules connected behind ECT do not support alias access and configuration. Range: 1~65535
EtherCAT cycle	Min. cycle time of 125 microseconds
EtherCAT port	2 x RJ45
Communication rate	100 M, full duplex
Transmission distance	100 meters
Firmware update port	USB-C port for firmware upgrade

Expansion capability

GL20 expansion modules

Great performance with ultra fast response

Microsecond level response | Synchronous control

Compact size and wiring without tools

Compact size | Fast installation | Fast replacement

Stable and reliable design

Stable connection | Gold plating process | Safety and reliability

Many variants to suit different systems

Multiple protocols | Many variants

Applicable to either bus coupler or CPU

NEW generation distributed I/O system

GL20 slice type modules

DESIGN AWARD 2022

Expansion capability

GL20 expansion modules

Compact Size

Saves 2/3 space during cabinet installation compared to our previous generation product – GL10

GL20 Series

Designed for compact cabinets

Thickness reduced to **12mm**

2/3 cabinet space saved

Space utilisation maximised

Compact design and tool-free wiring

Simple lever system allows easy removal of individual modules from the DIN rail

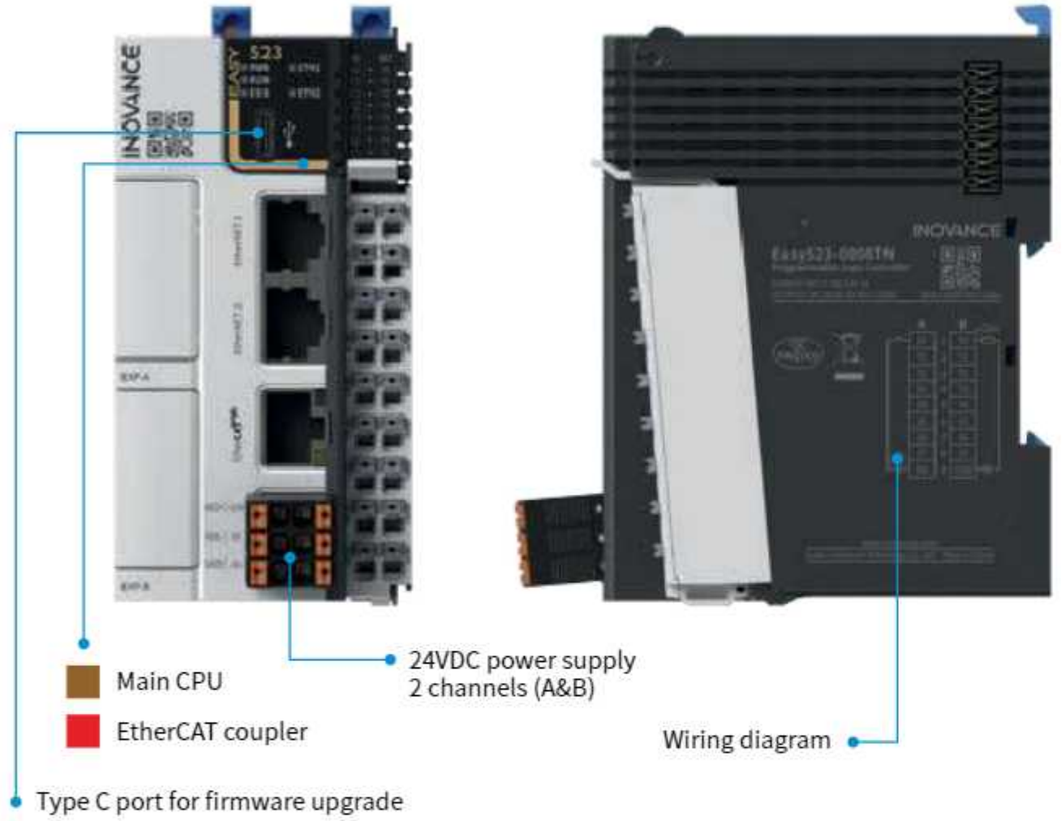
Easy wiring with 'plug and play' wiring terminals, with large 1.5mm² apertures

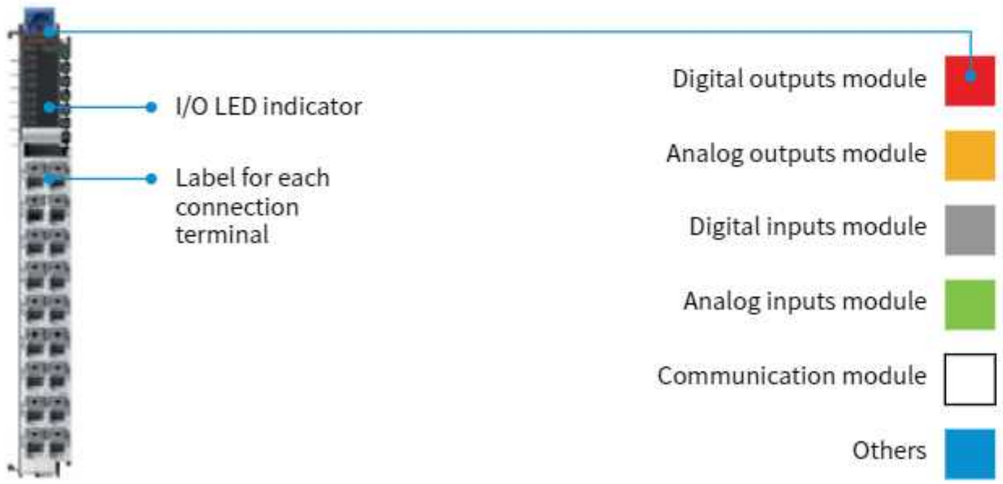
Supporting vertical plug-in/out

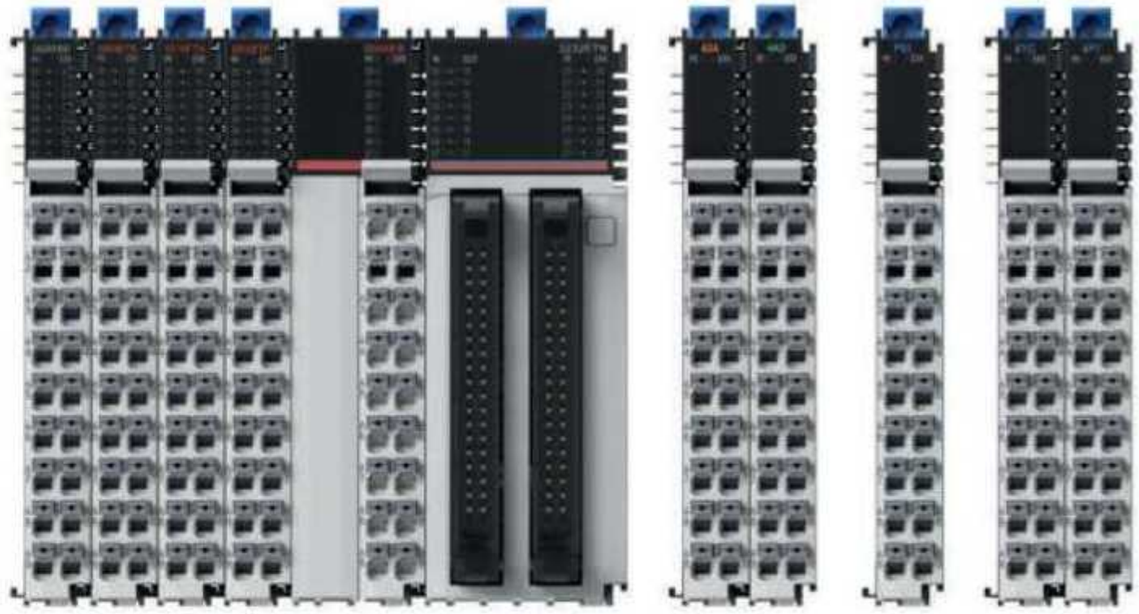
Removable terminals
minimizes installation errors

Expansion capability

GL20 expansion modules



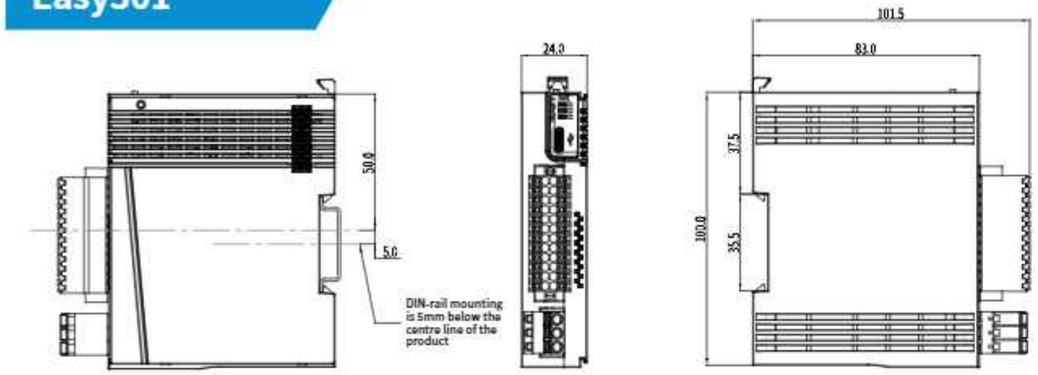




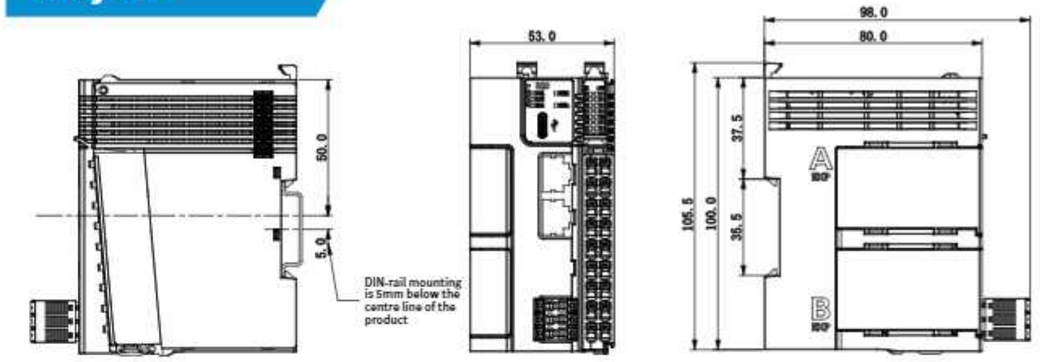
Type of Module	Model	Description
Bus coupler	GL20-RTU-ECT	EtherCAT slave bus coupler. Up to 16 expansion modules can be added
Digital input	GL20-1600END	16 x source (PNP)/sink (NPN) digital inputs module. Input filter from 0.25 ms to 32 ms
	GL20-0800END	8 x source (PNP)/sink (NPN) digital inputs module. Input filter from 0.25 ms to 32 ms
	GL20-3200END	32 x source (PNP)/sink (NPN) digital inputs module. Input filter from 0.25 ms to 32 ms
Digital output	GL20-0008ETP	8 x source (PNP) transistor outputs module. Response time 100 µs
	GL20-0016ETP	16 x source (PNP) transistor outputs module. Response time 100 µs
	GL20-0016ETN	16 x sink (NPN) transistor outputs module. Response time 100 µs
Digital inputs/outputs	GL20-0808ETN	8 x source (PNP)/sink (NPN) digital inputs and 8 x sink (NPN) transistor outputs module
	GL20-3232ETN	32 x source (PNP)/sink (NPN) digital inputs and 32 x sink (NPN) transistor outputs module
Analog inputs/outputs	GL20-4AD	4 x analog inputs module (resolution 16 bits, sampling time 250 µs)
	GL20-4DA	4 x analog outputs module (resolution 16 bits, sampling time 250 µs)
Temperature detection	GL20-4PT	4 x channel thermal resistance inputs temperature detection module
	GL20-4TC	4 x channel thermocouple inputs temperature detection module

Dimensions

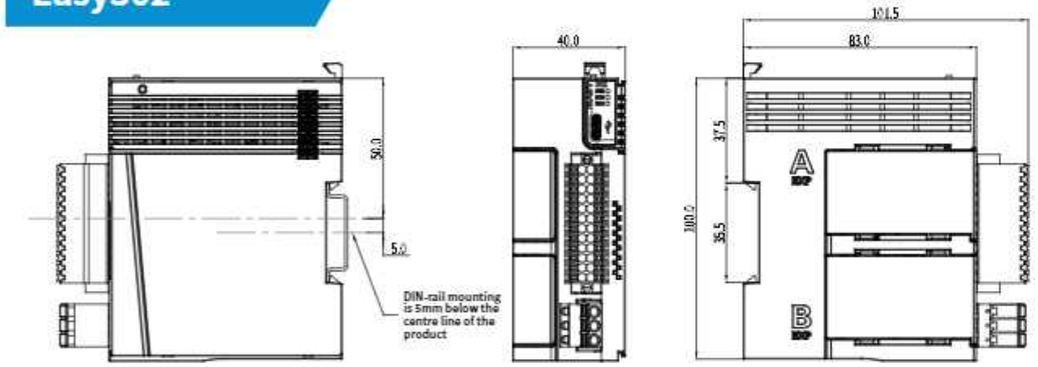
Easy301



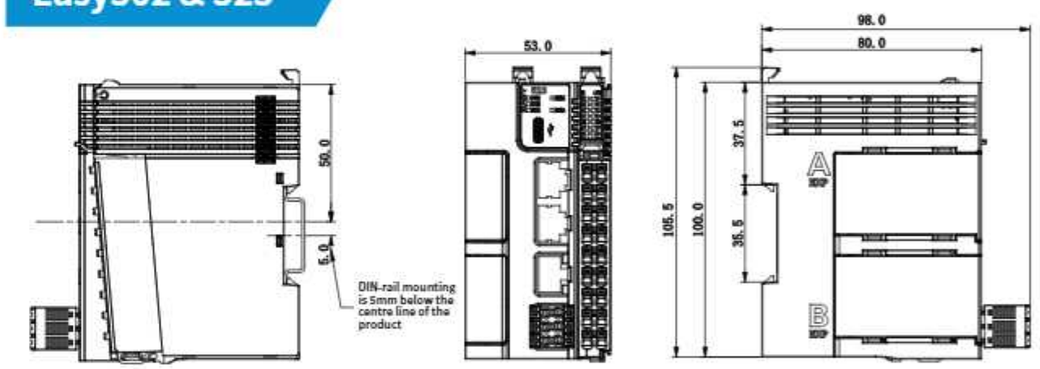
Easy320



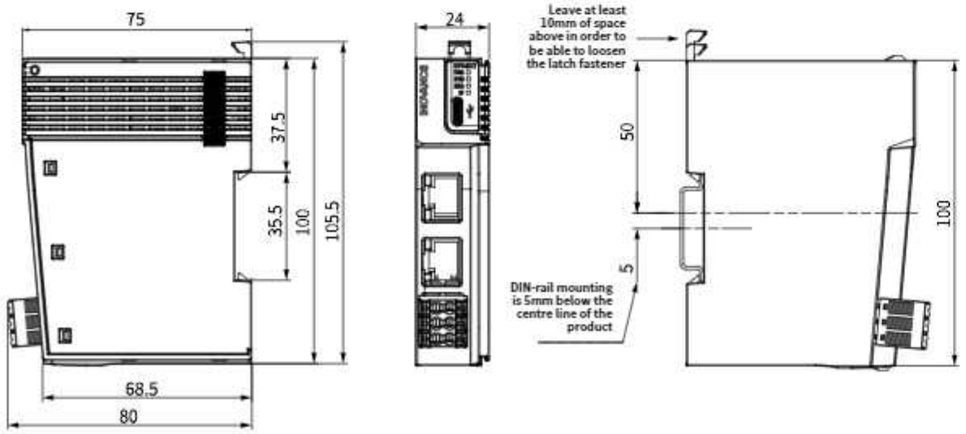
Easy302



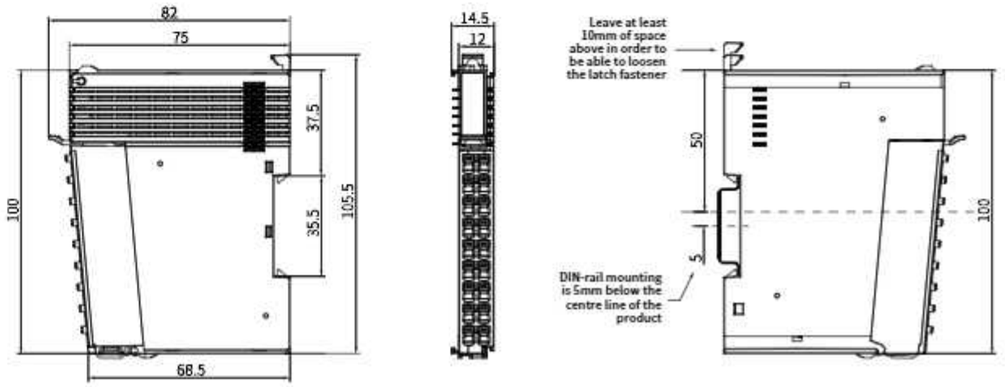
Easy502 & 523



GL20-RTU-ECT



GL20-1600END, GL20-0800END, GL20-0008ETP, GL20-0016ETP, GL20-0016ETN, GL20-0808ETN, GL20-4AD, GL20-4DA



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