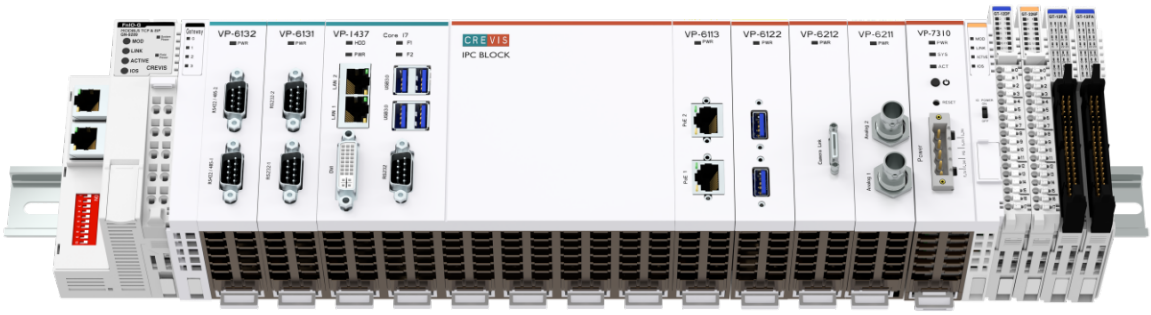
Industrial PC

IPC BLOCK

User Manual



Version 1.00

CREVIS Co.,Ltd

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DOCUMENT CHANGE SUMMARY				
REV.	PAGES	REMARKS	DATE	Editor
1.00	New Documents		2020.06.29	CH Hong

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1. Important Notes

Before using this product, Please read this manual regarding the installation, set-up, and operation of the product. The user must be familiar with installation and wiring instructions plus the requirements of all applicable regulations, laws, and stardards. If you use this product in a manner not sepcified by the manufacture, the protection of the product may be impaired. In no event will CREVIS be liable for any direct or indirect damages arising from the use or application of this product.

Installation, adjustment, execution, use, assembly, disassembly and maintenance must be carried out after consulting this manual. The examples and diagrams contained in this manual are used for descriptive purpose only. Because there are various variables and requirements associated with a particular installation, CREVIS is not responsible for the actual use based on these examples and diagrams. No part of this manual may be reproduced, copied, translated or transmitted in any form or by any means without the prior written permission of CREVIS.

Warning!

Please follow the instructions below carefully.	
DANGER 	• Disconnect the power cord without power apply in non-hazardous locations. • Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. • All components must be suitable for the environment. • Please avoid use in environment exceeding 60 °C(122 °F). If you use that environment, You have to install the cooling fan, heat exchanger or air conditioner. • The installation site has sufficient power. • In dry environments, static electricity can easily accumulate. grounding of this product can reduce electrostatic discharge tha can cause shock and damage to electronic components. • Avoid dangerous locations for prevent system damage and meet mechanical shock and vibration requirement.

1.1. Installation Environment

1.1.1. Physical Environment

※ Please install it to avoide the environment below.

1) Ambient temperature : exceed the range of 0 to 60℃.

(When the control panel is the internal temperature of the control panel)

2) Humidity : exceed the range of 10 ~ 80 %.

3) Place where dew can form due to rapid temperature changes.

4) Place with corrosive, inflammability gas.

5) Place where there is a lot of oil mist, salt and organic products fatty powder such as dust

and iron,.

6) Spot where direct sunlight is exposed.

7) Place where occur the high magnetic field, high electric field.

8) Place where vibrations or shocks are transmitted directly to the main body.

1.1.2. Electrical environment

1) Regulation of power 24VDC voltage within +-10%.

2) Probablity of damage as Sine wave within 5%, caution of power condenser, rectifier.

3) Wire as far as possible from the high-voltage line, high electric line. (over 100mm when parallel wiring)

4) Do not store on the same control panel as the noise generating device.

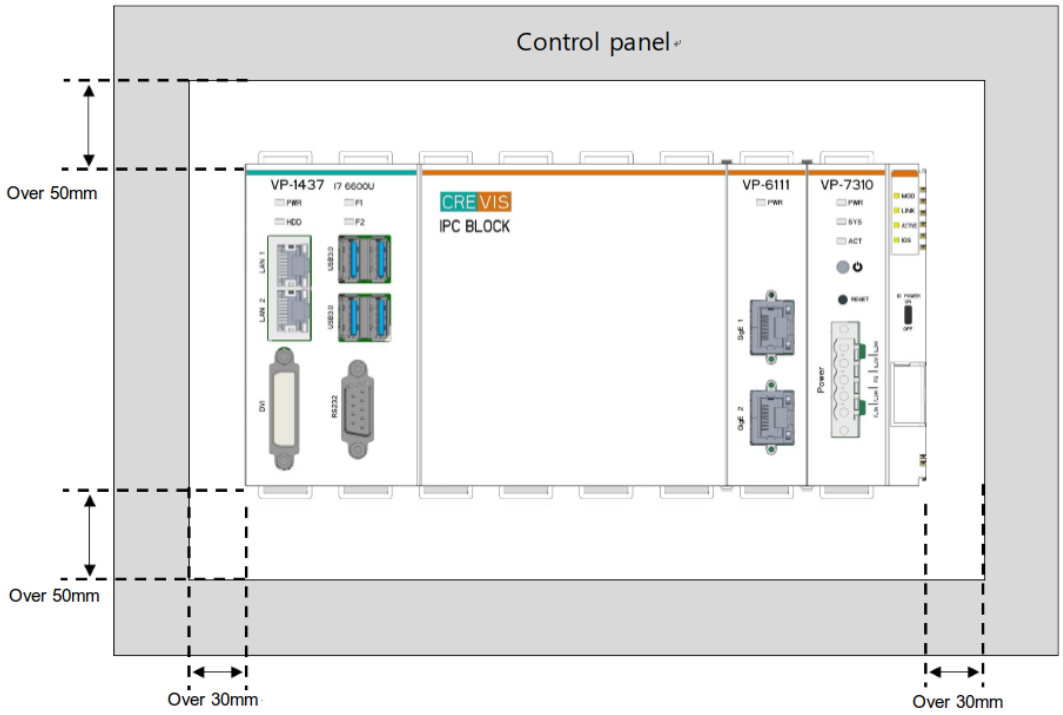
(high frequency equipment, inverter, electric spark machine are installed as far apart as possible

and wiring apart)

5) Separate devices that generate arcs when switching electronic contractors or breakers.

1.2. Installation

1) Ensure that there is space at the top and bottom of the module in the control panel box

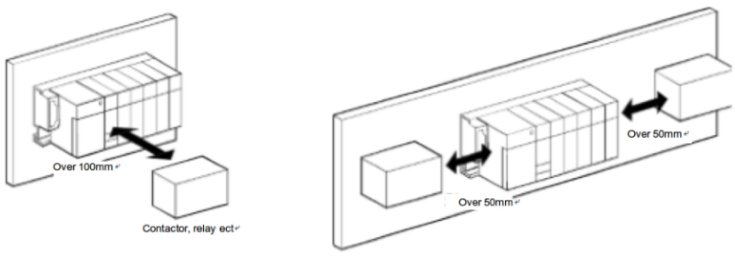


2) Do not place them with vibration products such as large electronic contractors or breakers.

Install them on separate panels or install them securely.

3) To avoid product damage caused by radiation noise or heat, the PLC and instruments

(Contactors or relays) provide the following space.



front : 100mm, vertical : 50mm

1.3. Power Wiring

1.3.1. precautions for wiring

1) Be sure to disconnect the external supply power used by the system when working on wiring.

(Electrocution and product can be damaged)

2) Always ground yourself over D-type grounding (triode earth) There is possibility of absnomal motion.

1.3.2. Wiring

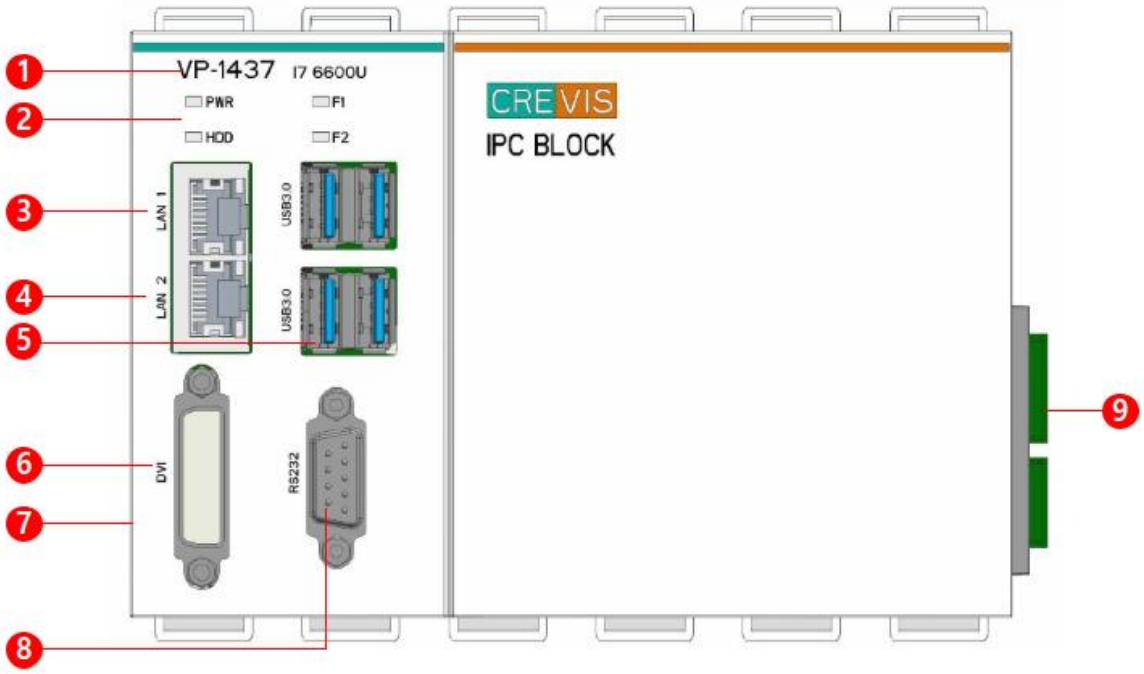
1) System and Field power must be supplied separately.

2) DC24V wires are twisted to the shortest distance, Recommend to use under AWG18 to reduce the voltage drop.

3) DC24V wire have to install with main power line(high voltage, high current), input-output signal line or install it more than 100mm away.

2. Description

2.1. Interface

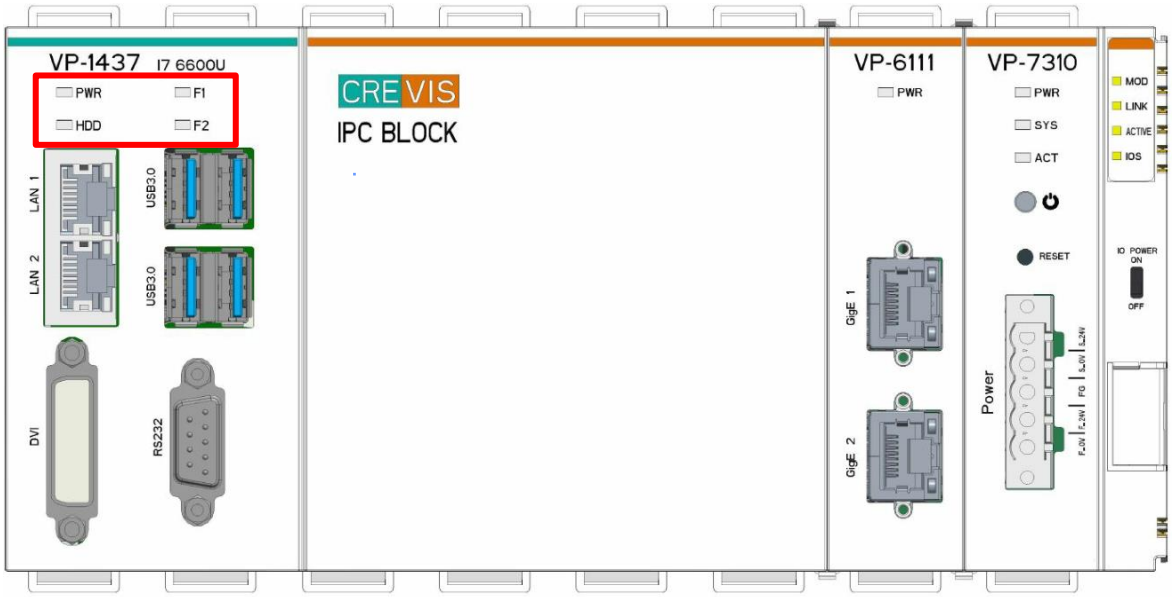


No.	Name	Description
①	Model Name	VP : IPC Block Series
②	LED Status	Power LED, SSD Access, Controllable LED by user
③	LAN 1	L210 Chipset (10/100/1000)
④	LAN 2	L219 Chipset (10/100/1000)
⑤	USB 3.0	Connecting keyboard, mouse, USB Memory, Etc
⑥	DVI-D	Connecting monitor
⑦	USB /SATA Expansion Connector	I/O Module connector (For Expansion)
⑧	RS 232	RS 232 Interface
⑨	PCIe Expansion Connector	I/O Module connector (For Expansion)

2.2. Specification

Model	VP-1425-4A	VP-1437-4A	VP-1437-8B	VP-1437-FB	VP-1437-FC
Processor	Intel® Celeron® Processor	Intel® Core™ i7-6600U Processor			
Number of cores	2				
Maximum Frequency	2.0 GHz	3.4 GHz			
RAM	4GB		8GB	16GB	
SSD	128GB		256GB		512GB
Memory	Two 260-pin 2133/1866 MHz dual-channel DDR4 non-ECC unbuffered SO-DIMMs support up to 32GB				
LEDs	Power Led, SSD Access, Status1, Status2				
Operating System	Windows10 64 bit(Standard), Windows 7 32 bit (Optional)				
Monitor Port	DVI-D				
Ethernet Port	2 x Gigbit Ethernet (I219, I210 chipset)				
Serial Port	1 x RS 232				
USB Port	4 x USB 3.0				
Mounting	Din Rail				
Dimension	100 x 150 x 70(mm)				
Weight	Approx. 900 g				
Vibration	> 2G				
Operating temperature	0~60℃				

2.3. LED

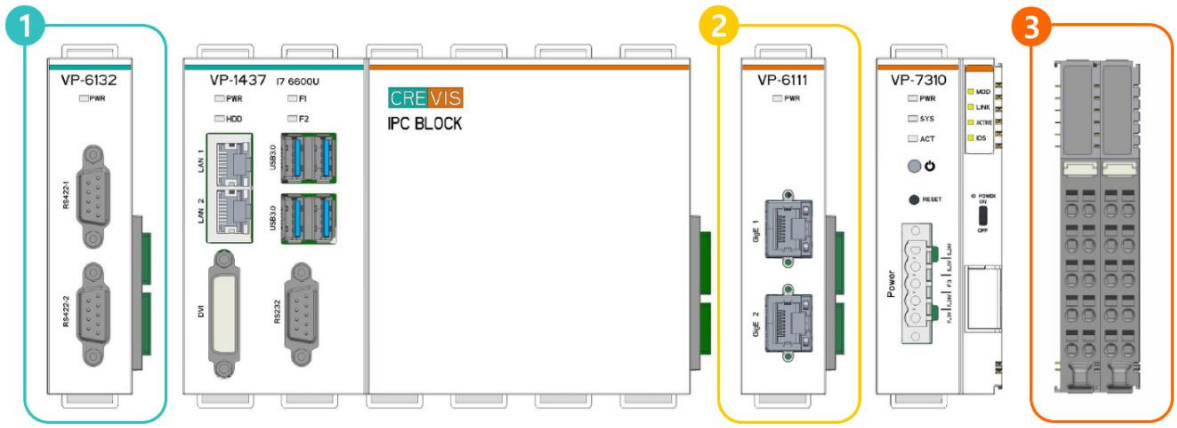


No.	Name	Description
1	HDD	Hard disk Status
2	PWR	System Power Status
3	F1	ISMM FUNCTION1 (User Setting)
4	F2	ISMM FUNCTION2 (User Setting)

※ ISMM FUNCTION User Manual attached on the last page

2.4. Configuration

2.4.1. Module and I/O expansion



① USB /SATA Expansion

- Enable to expand modules in USB/SATA expansion type
- USB type: No limitation of expansion, ex) Serial module
- SATA type: Expandale up to 2 modules, ex) SSD module

② PCIe Expansion

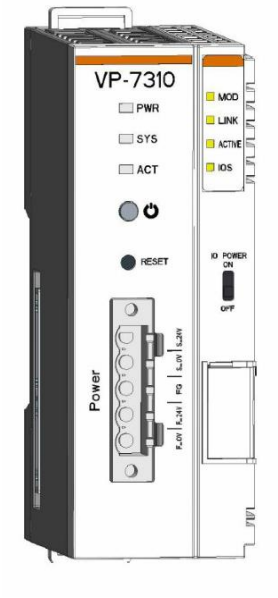
- Enable to expand up to 4 modules in PCIe type
- EtherNet, USB, FieldBus and other modules available

③ Remote I/O Expansion

- FnIO G-Series I/Os can be expanded by MODBUS TCP communication to remote without the additional configuration.

※ libraries and source code examples available for FnIO MODBUS Connection on www.crevis.co.kr

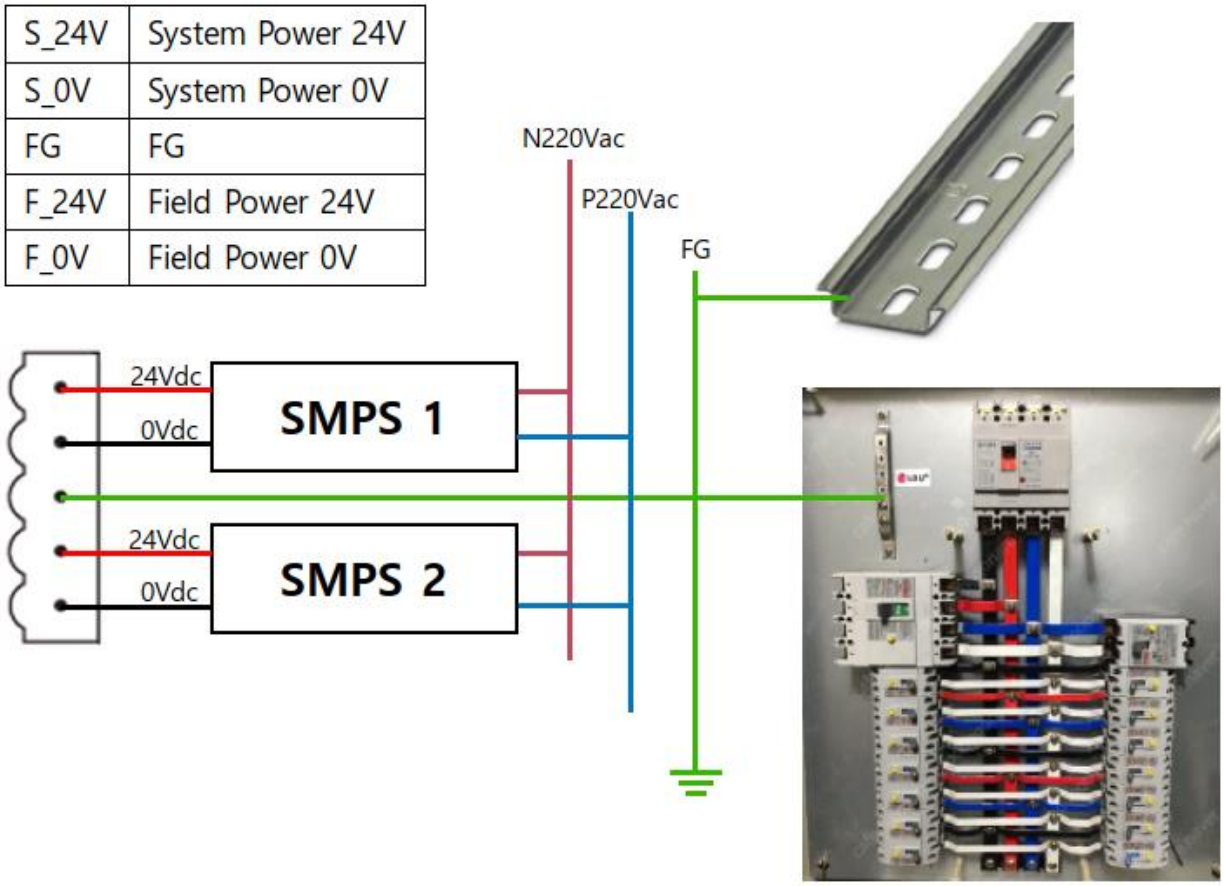
2.4.2. Power Wiring and Connector





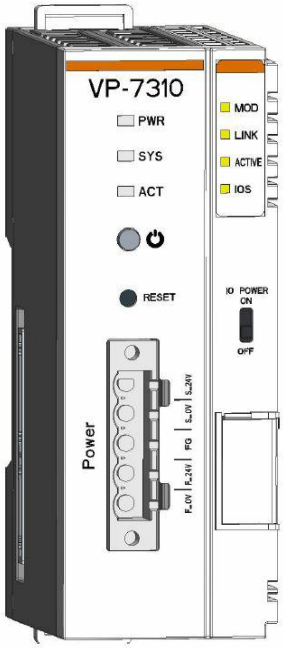
5Pin Connecter

S_24V	System Power 24V
S_0V	System Power 0V
FG	FG
F_24V	Field Power 24V
F_0V	Field Power 0V



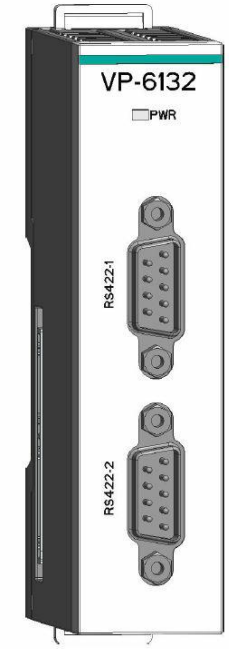
3. Module Line-up

3.1 Power Module



Model	VP-7310
System Power	24Vdc(+/-10%)
Max. Output	50W
LED	Power In, 12V Output, 5V Output
IO Bus Expansion	Remote I/O G-Series
IO Bus Power	5V, 2A
Dimension	100 x 37 x 70 (mm)
Weight	Approx. 240g

3.2 Serial Module



Model	VP-6131	VP-6132	VP-6133
Spec	RS-232	RS-422	RS-485
Connector	2 x D-SUB 9Pin		
Dimension	100 x 25 x 70 (mm)		

3.3 EtherNet Module

Model	VP-6111	VP-6113
Spec	GigE	PoE
Connector	2 x RJ45	
Controller	I210	
PoE	X	O
Dimension	100 x 25 x 70 (mm)	



3.4 USB Module

Model	VP-6121
Spec	USB 3.0
Connector	2 x USB 3.0
Speed limit	Max 8 Gbps total bandwidth (PCIe 3.0 x 1 lane)



3.5 FieldBus Master Module

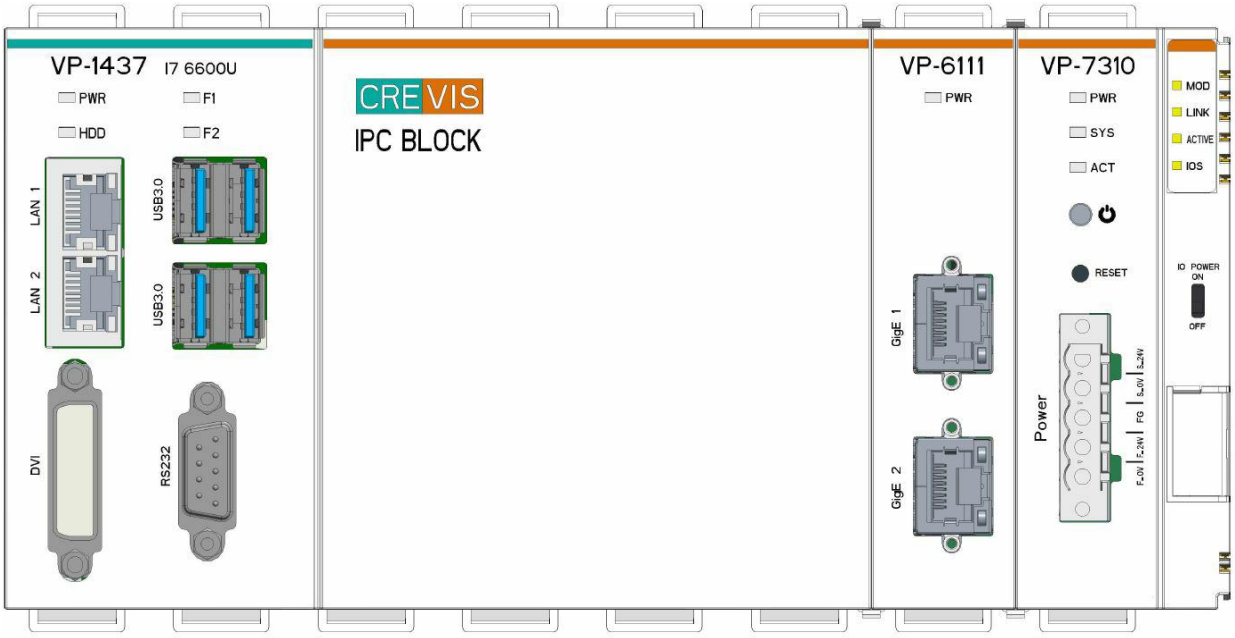
Model	VP-6411	VP-6421	VP-6422
Spec	EtherCAT	DeviceNET	PROFINET
Connector	2 x RJ45		
Dimension	100 x 25 x 70 (mm)		

3.6 Model List

No.	Model	Description
1	VP-1425	Intel Celeron 3955U Processor module
2	VP-1437	Intel Core i7-6600U Processor module
3	VP-7310	Expansion Power Module 24VDC, IO Bus 5Vdc
4	VP-6111	Expansion Ethernet GigE Module (2 x RJ45)
5	VP-6113	Expansion Ethernet POE Module (2 x RJ45)
6	VP-6131	Expansion Serial RS-232 DSub 9Pin Module (2 x RJ45)
7	VP-6132	Expansion Serial RS-422 DSub 9Pin Module (2 x RJ45)
8	VP-6133	Expansion Serial RS-485 DSub 9Pin Module (2 x RJ45)
9	VP-6121	Expansion USB 3.0 Module (2 x RJ45)
10	VP-6411	Expansion EtherCAT Master Module (2 x RJ45)
11	VP-6421	Expansion DeviceNET Master Module (2 x RJ45)
12	VP-6422	Expansion PROFIBUS Master Module (2 x RJ45)

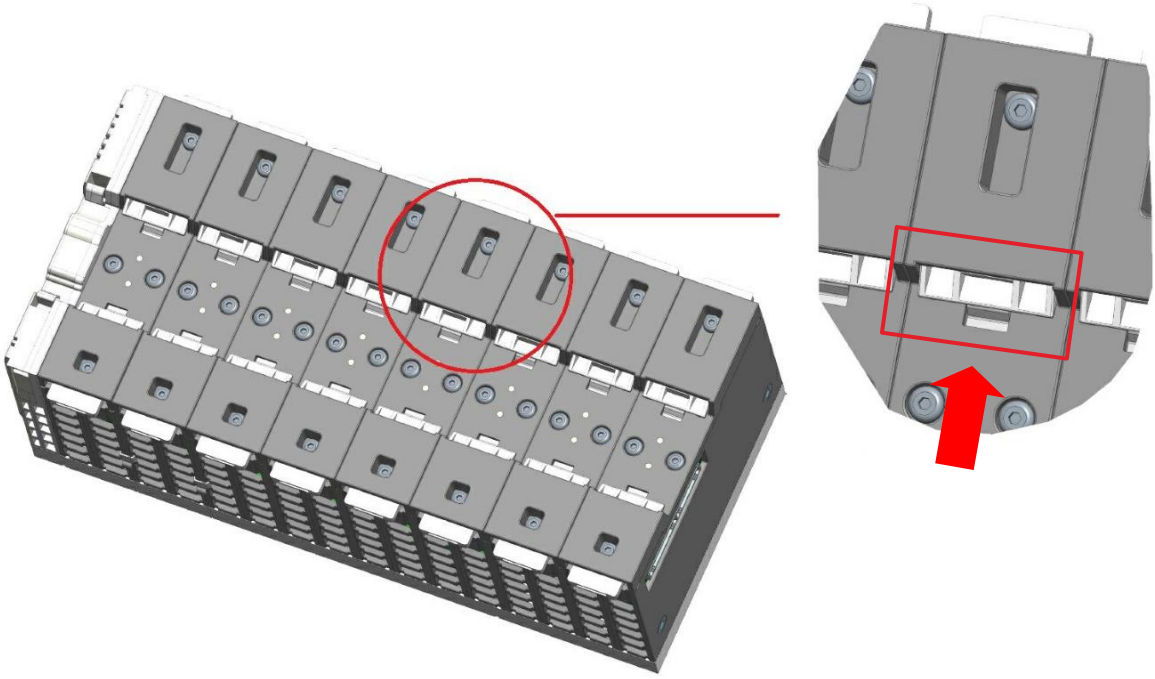
4. Installation Guide

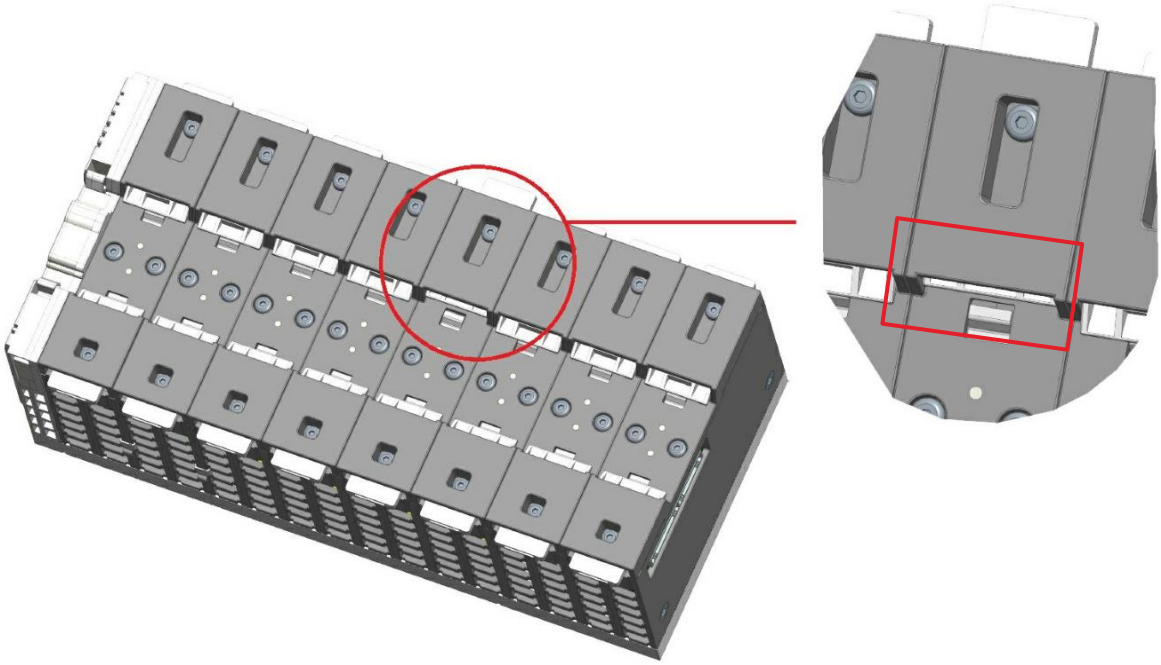
4.1. DIN Rail Mounting





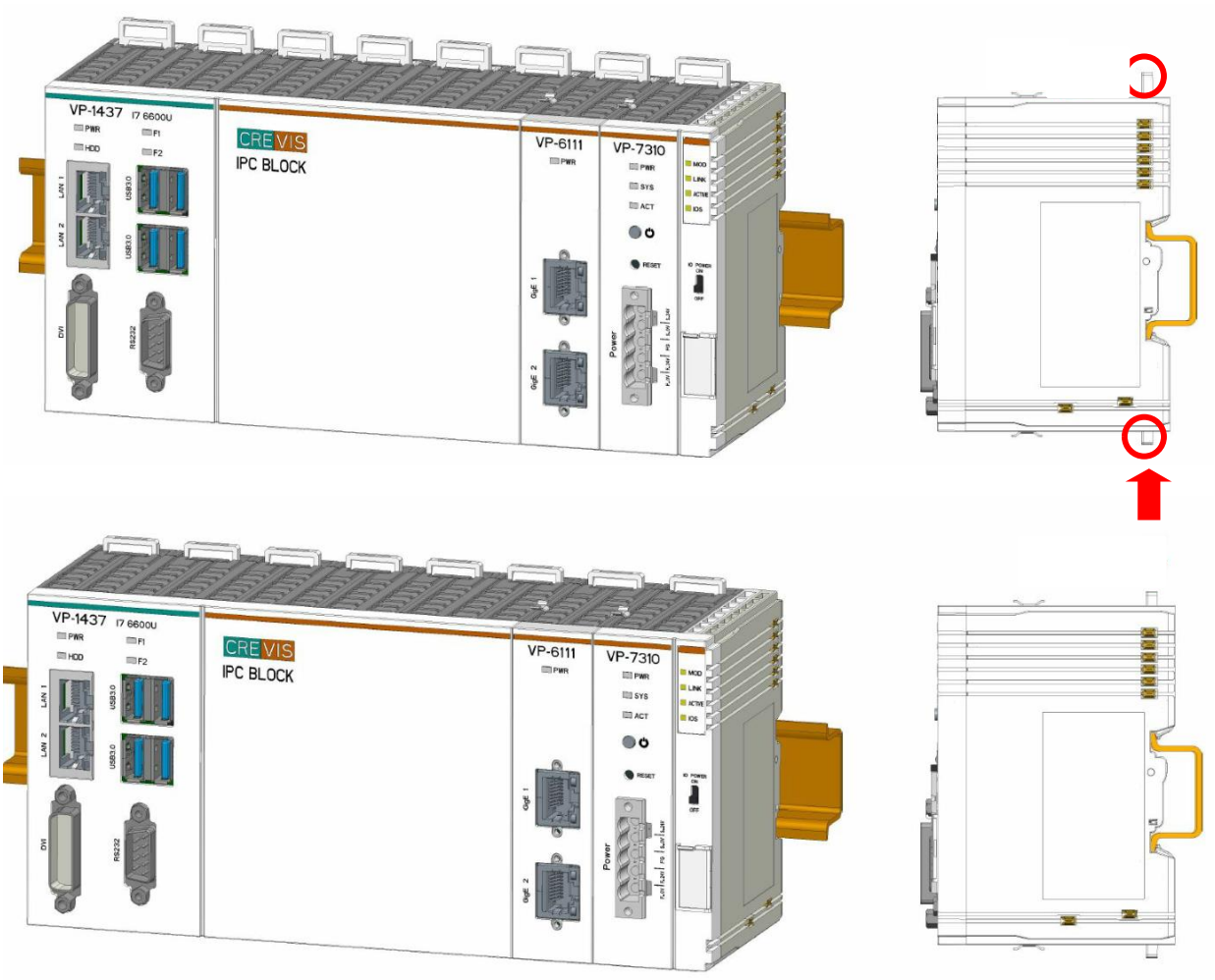
1) Make sure all the DIN Rail Top/ Bottom Lockers at the back of the module are open to the direction pointed by the read arrow.



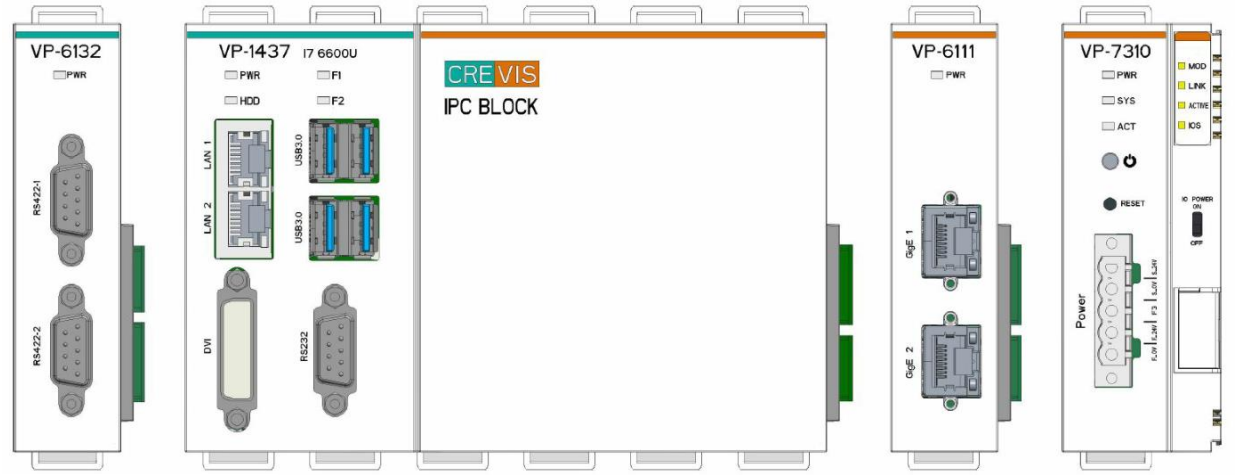


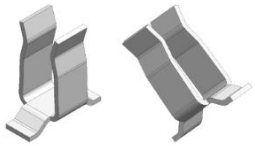
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2) After mounting on DIN Rail, close the lockers on the top and bottome of the module are to the direction pointed by the read arrowto be fixed.



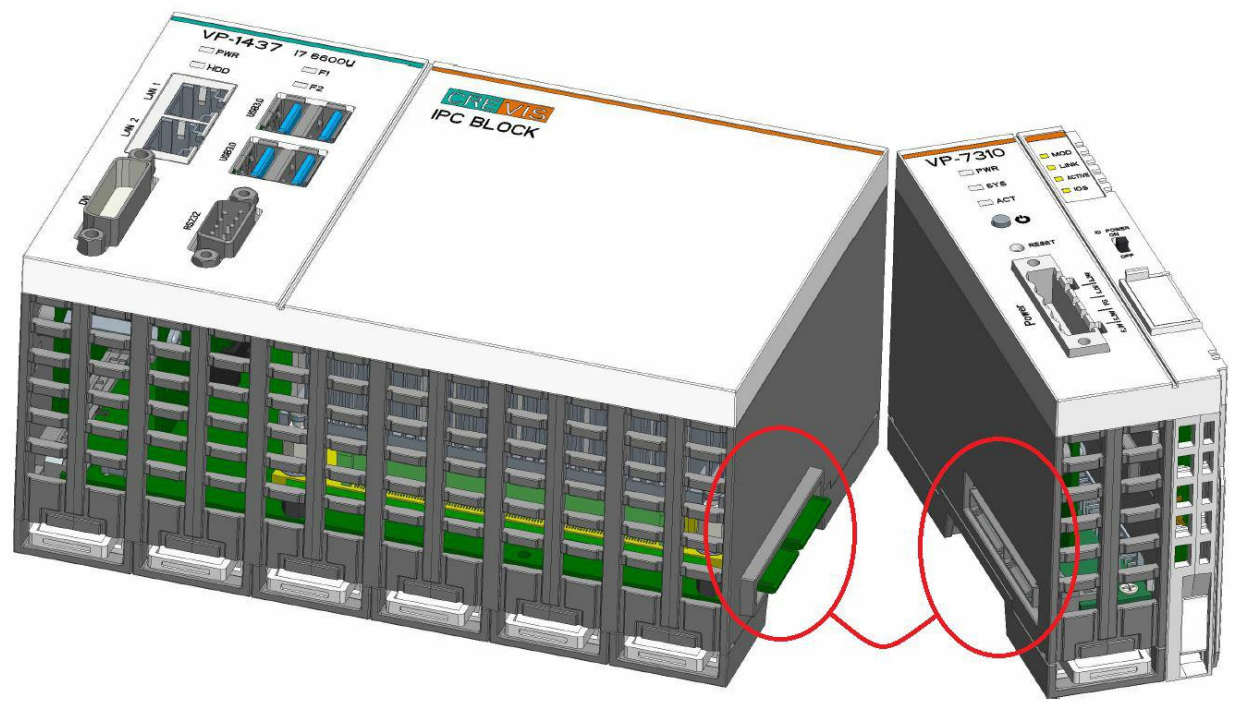
4.2. Module Expansion



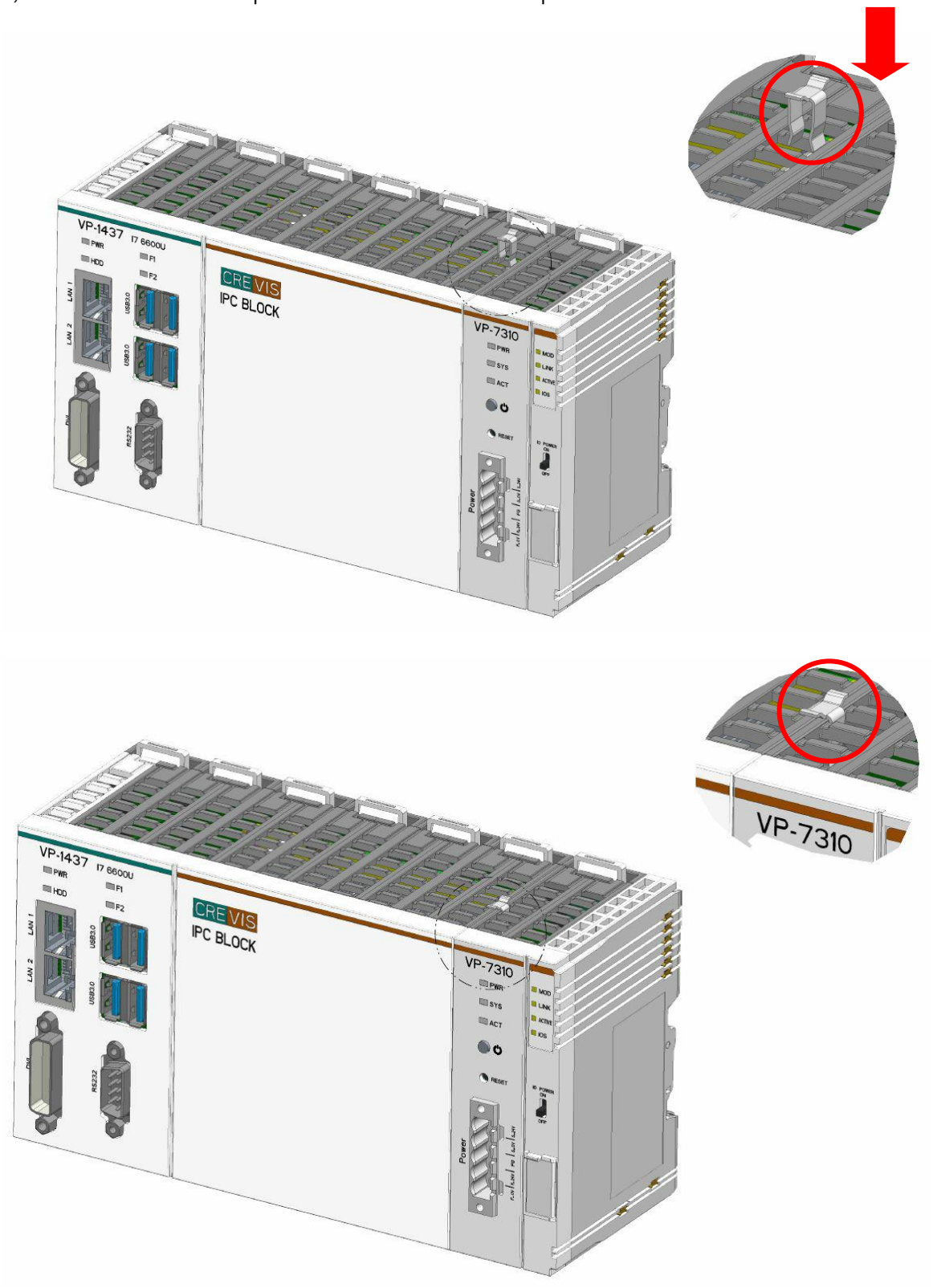


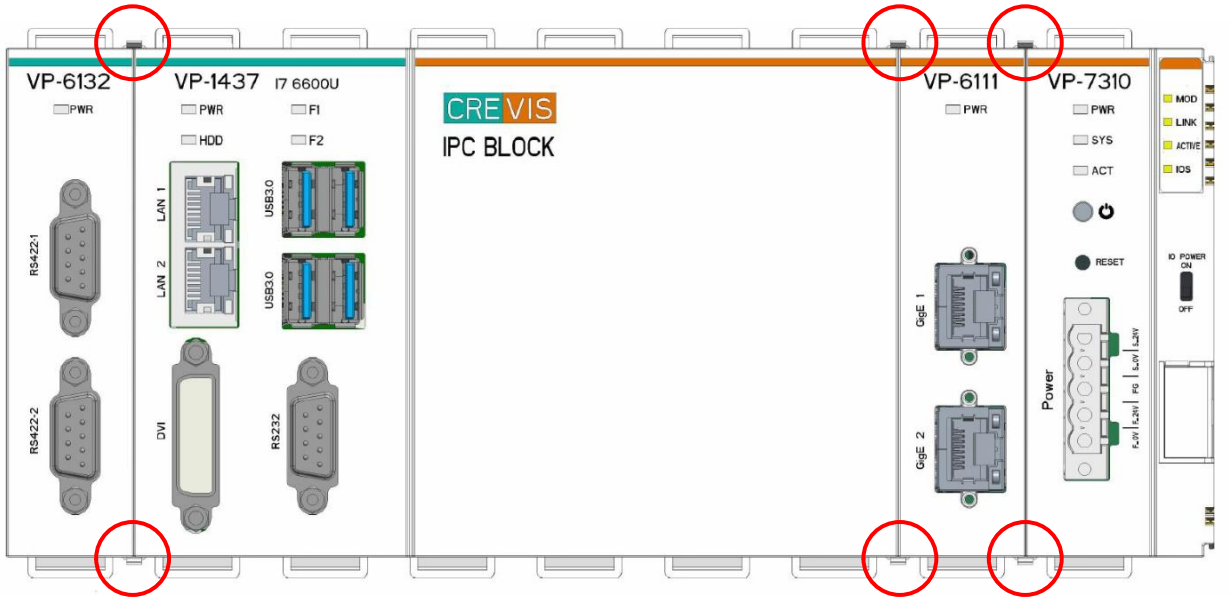
※ Module Clips for expansion included in the package

1) Mount the expanison modules by fitting the connectors.

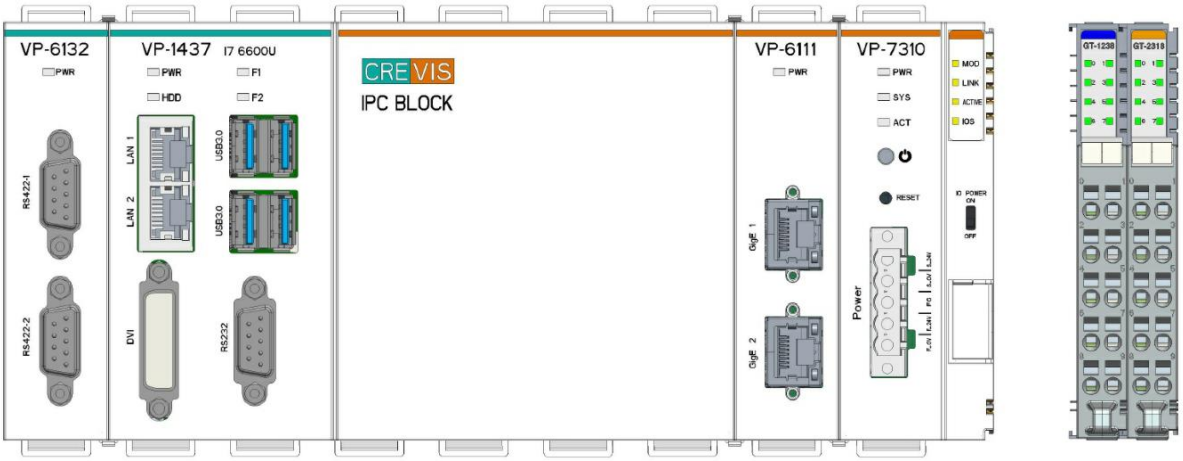


2) Position the module clip in the third holes on the top and the bottom to fix the modules.

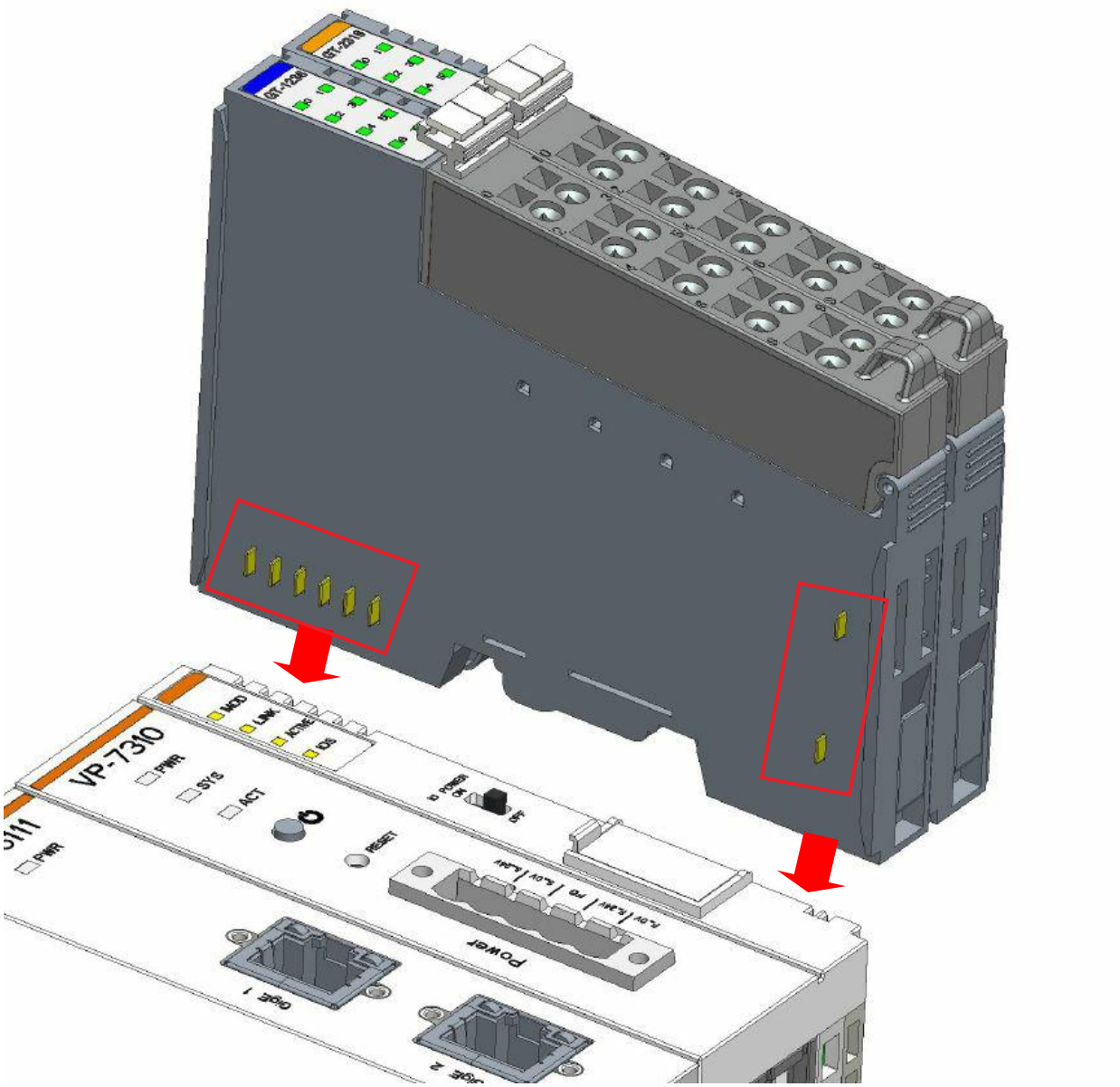


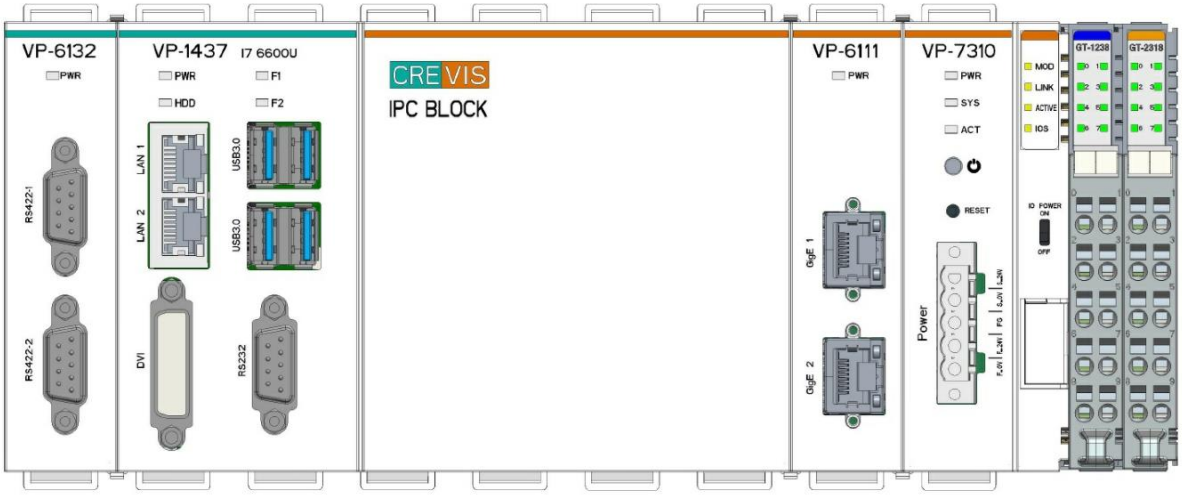

VP-6132
PWR
RS422-1
RS422-2
VP-1437
I7 6600U
PWR
HDD
F1
F2
LAN 1
LAN 2
USB30
USB30
DVI
RS232
CREVIS
IPC BLOCK
VP-6111
PWR
GigE 1
GigE 2
VP-7310
PWR
SYS
ACT
RESET
Power
MOD
LINK
ACTIVE
IOS
IO POWER ON
OFF

4.3. FnIO G-Series I/O Expansion



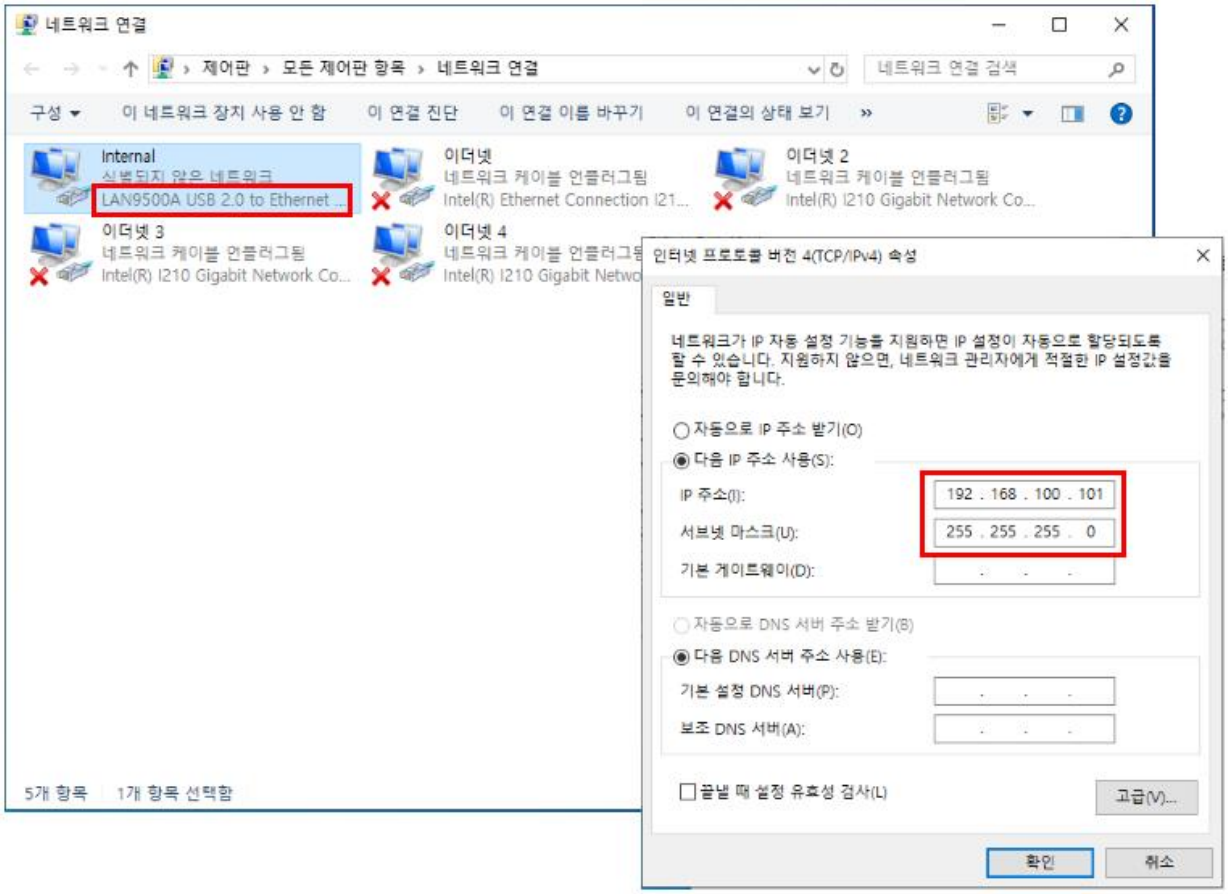
1) Slide I/Os down carefully to the modules by fitting the grooves and the pins.



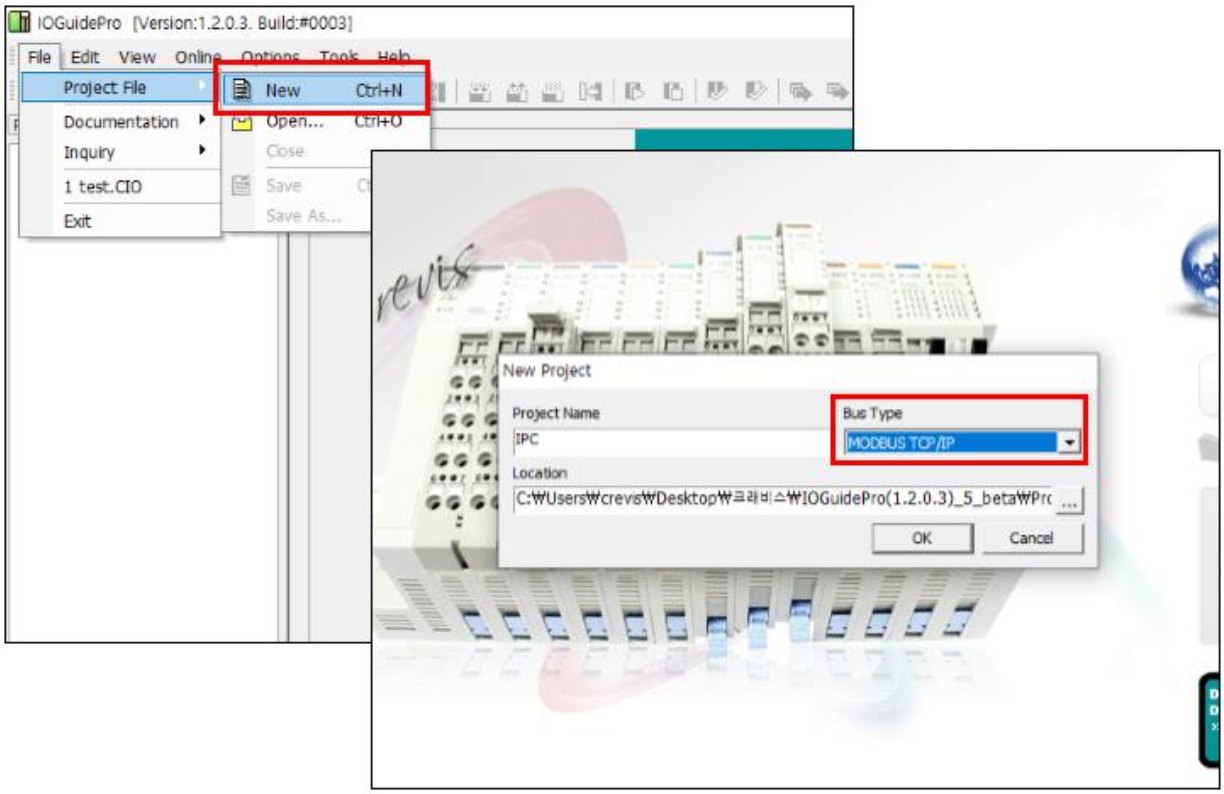

VP-6132
PWR
RS422-1
RS422-2
VP-1437
I7 6600U
PWR
HDD
F1
F2
LAN 1
LAN 2
USB3.0
USB3.0
DVI
RS232
CREVIS
IPC BLOCK
VP-6111
PWR
GigE 1
GigE 2
VP-7310
PWR
SYS
ACT
RESET
Power
MOD
LINK
ACTIVE
IOS
ID
POWER ON
OFF
GT-1238
GT-2318

4.4. I/O MODBUS TCP Communication

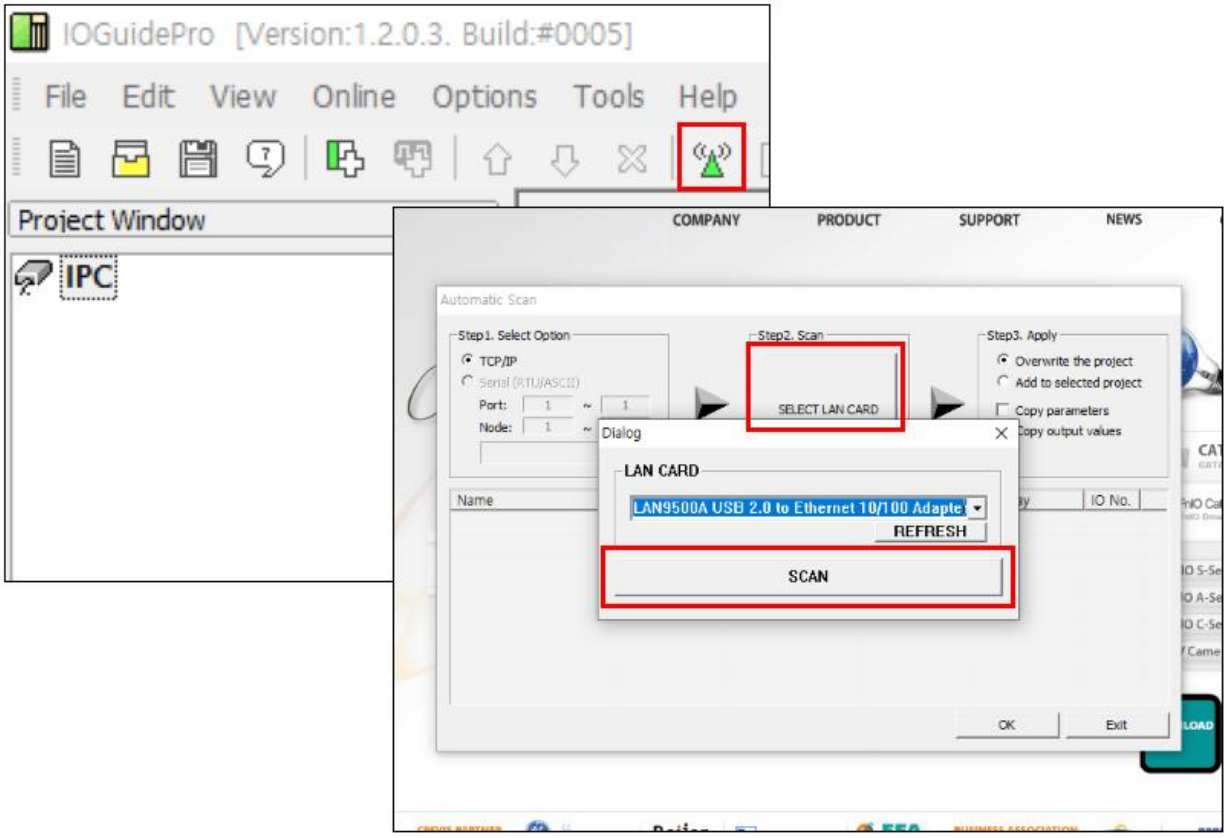
1) Set the IP address of LAN card starting with 'LAN9500A' from IPC 192.168.100.xxx.



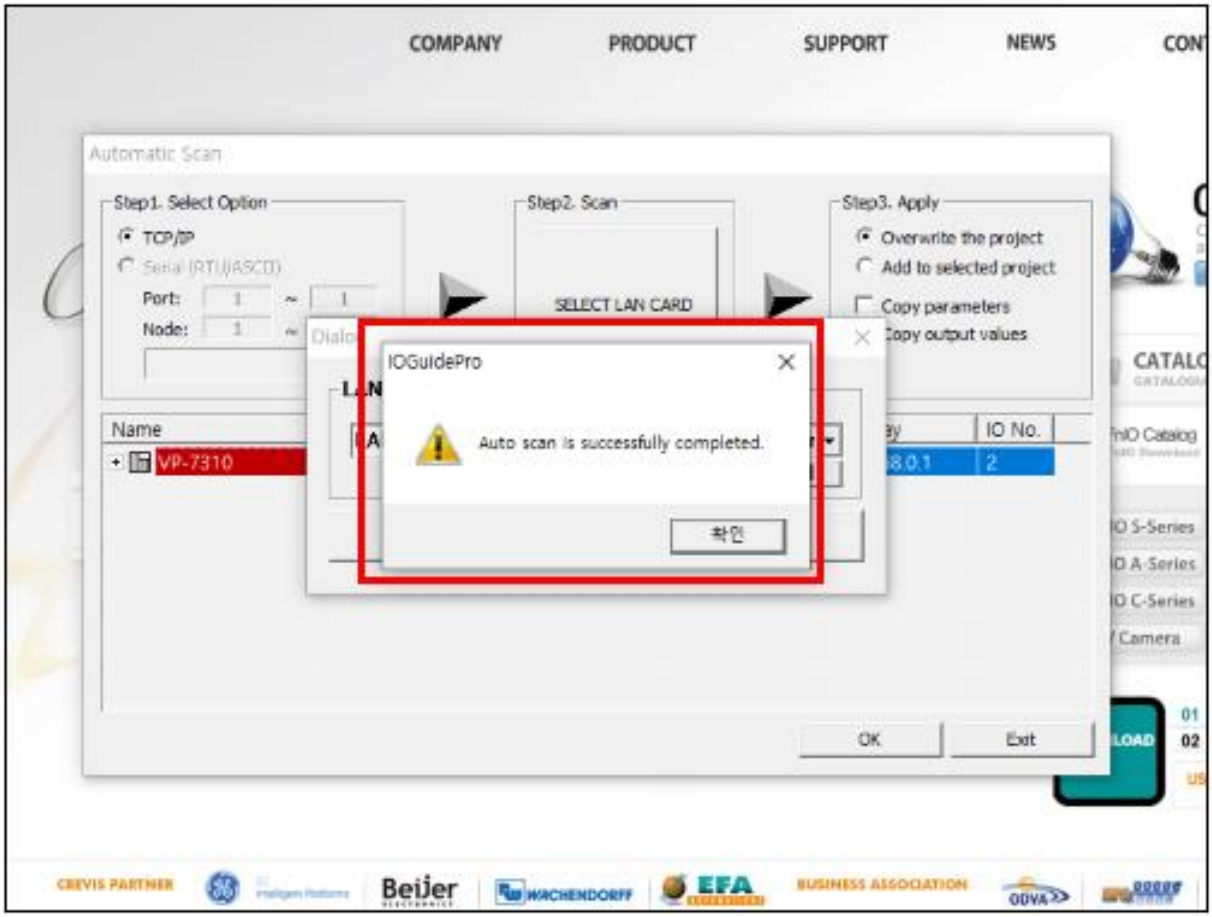
2) Create a new project with Bus Type 'MODBUS TCP/IP' [Click 'File' - 'Project File' - 'New'] on I/O Guide Pro.



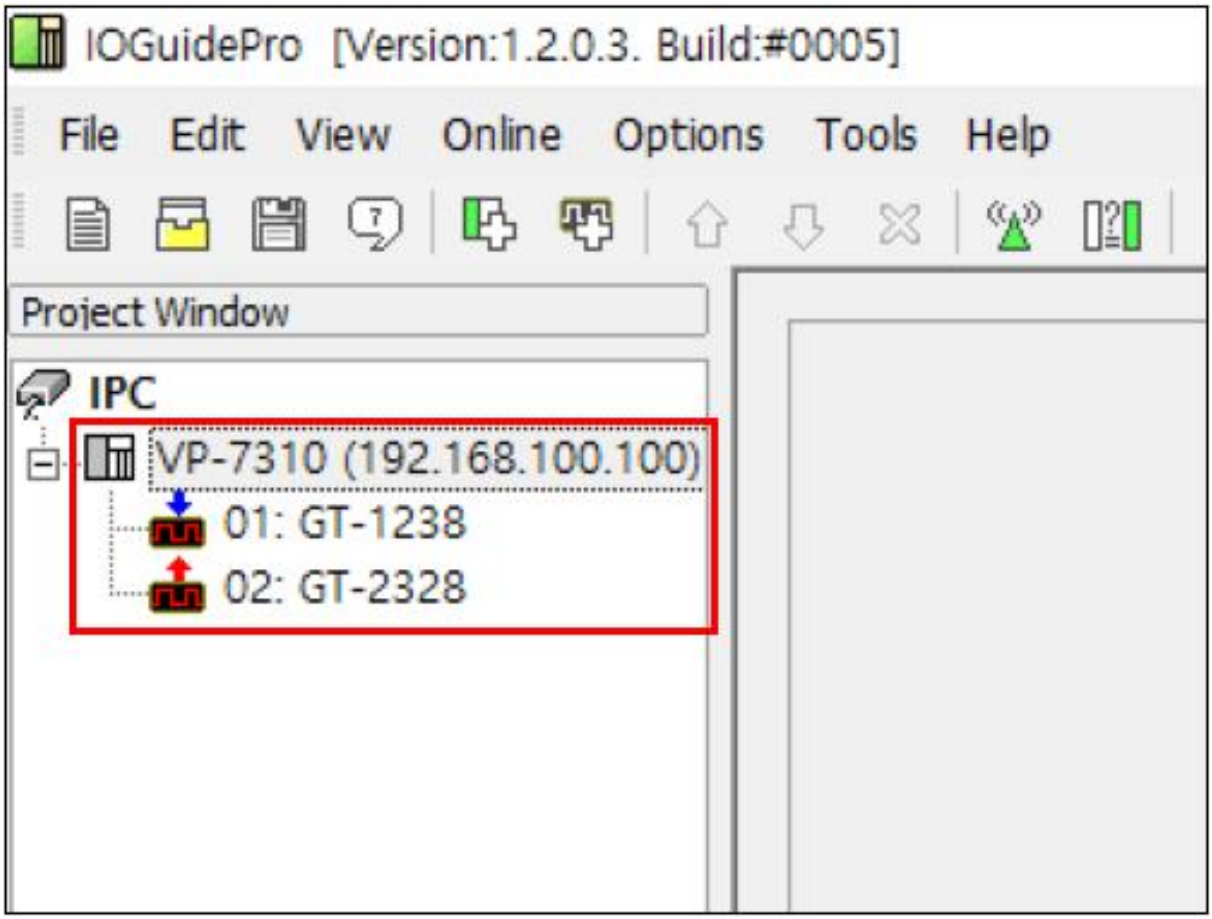
3) Automatic Scan(Click the green Toolbar) - Select a LAN card and Click 'Scan'.



4) When Automatic Scanning is successfully completed, You will see the pop up message like below and then click the OK button.



5) Check whether NA and I/O are connected/indicated well on Project Window.



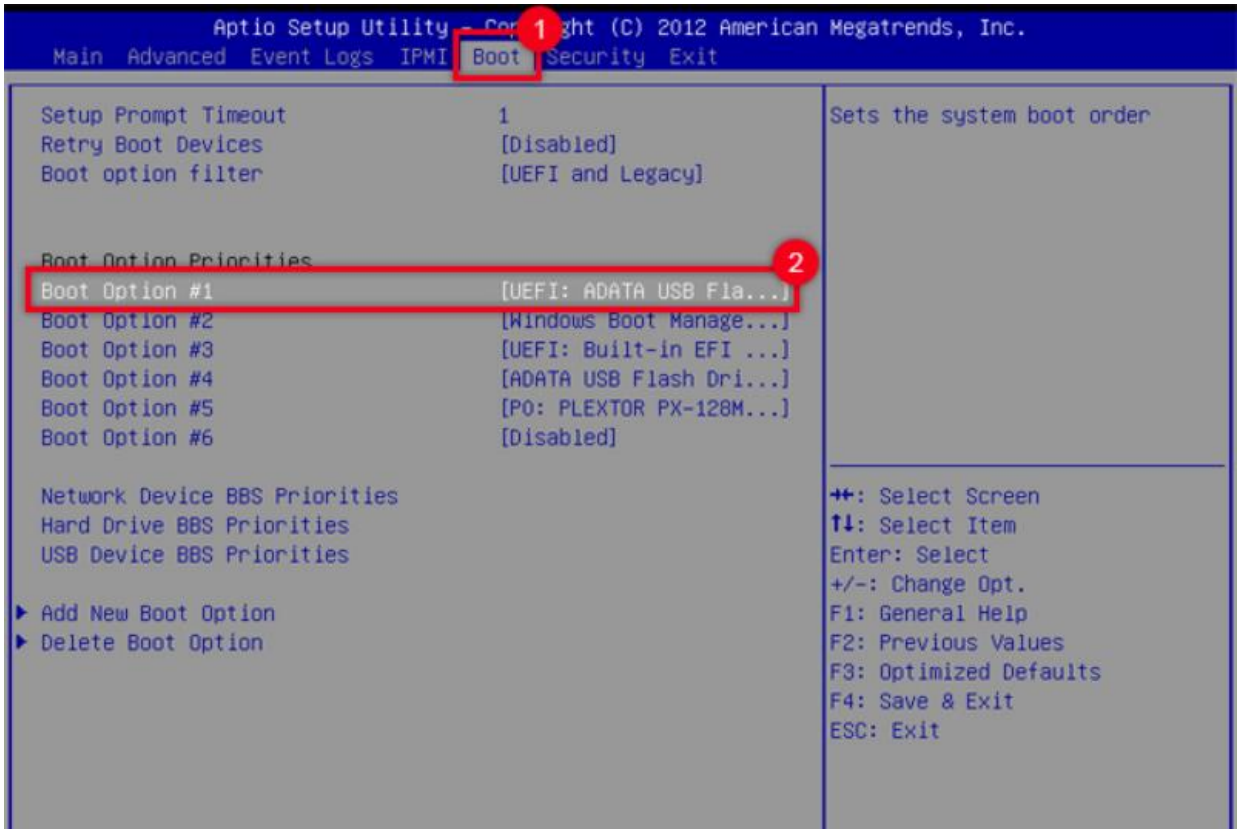
4.5. BIOS reset & Windows Reinstallation

1) Get USB booting disk ready for Windows 10 PRO

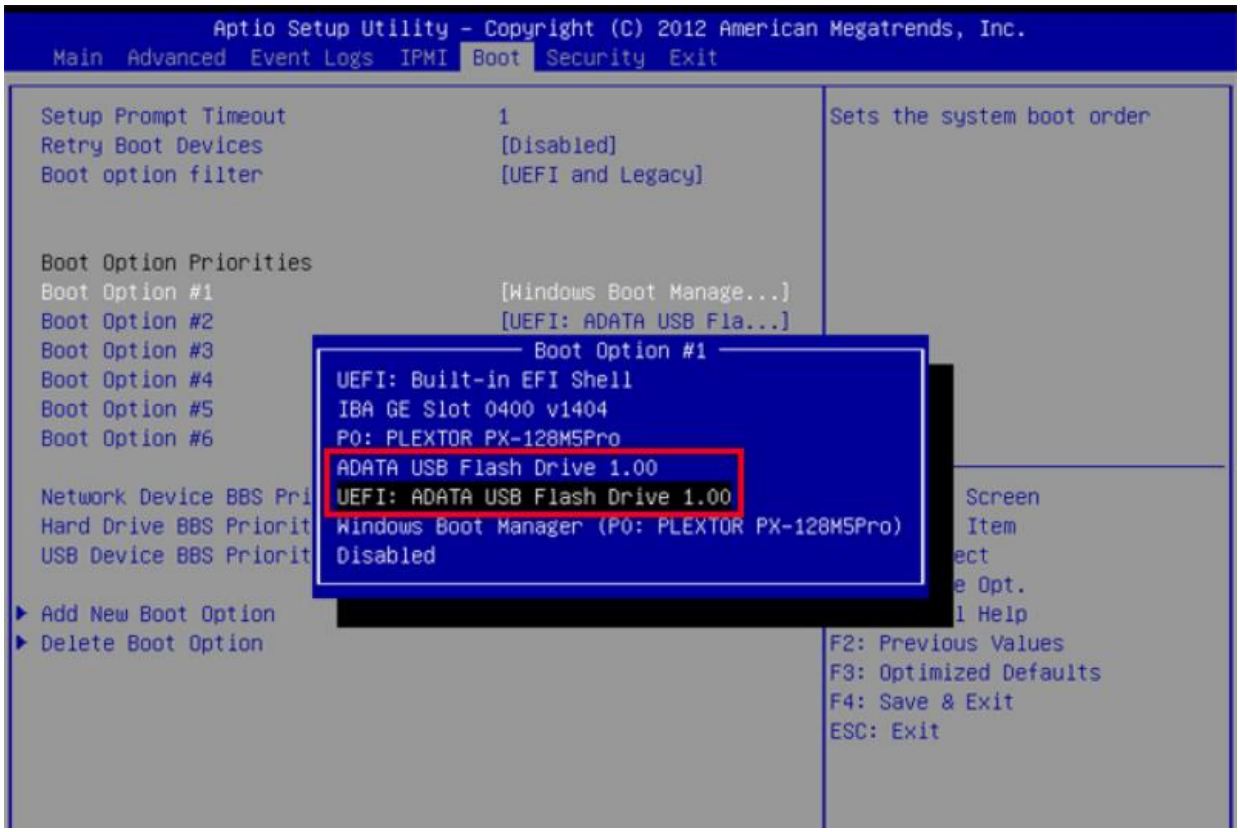
2) Powe on a PC with USB inserted.

3) While the PC is being booted, press 'DEL' key to enter BIOS.

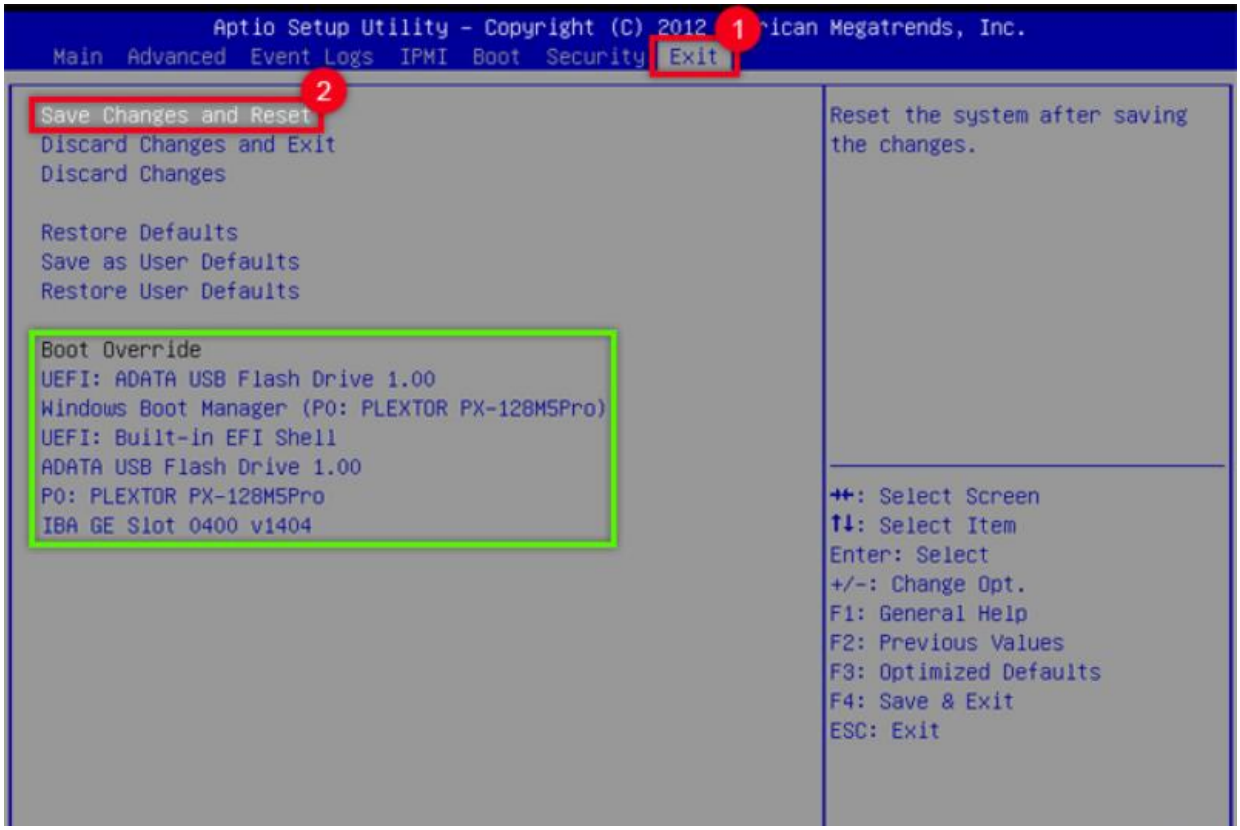
4) Move 'BOOT' tap and Select the first booting option on the tap.



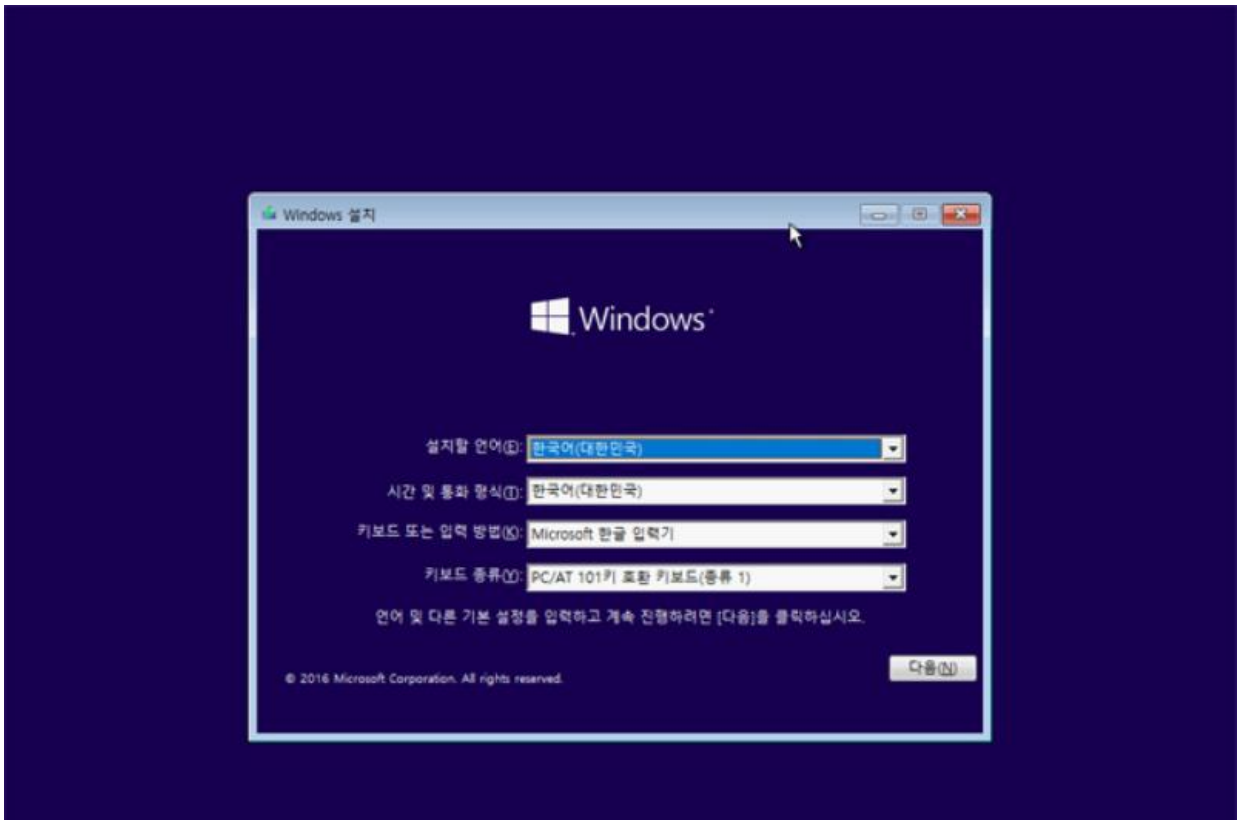
5) Select the USB drive that made the booting disk.



6) Move to the 'Exit' tap, select 'Save Changes and Reset' to save the changed info and reboot the PC.



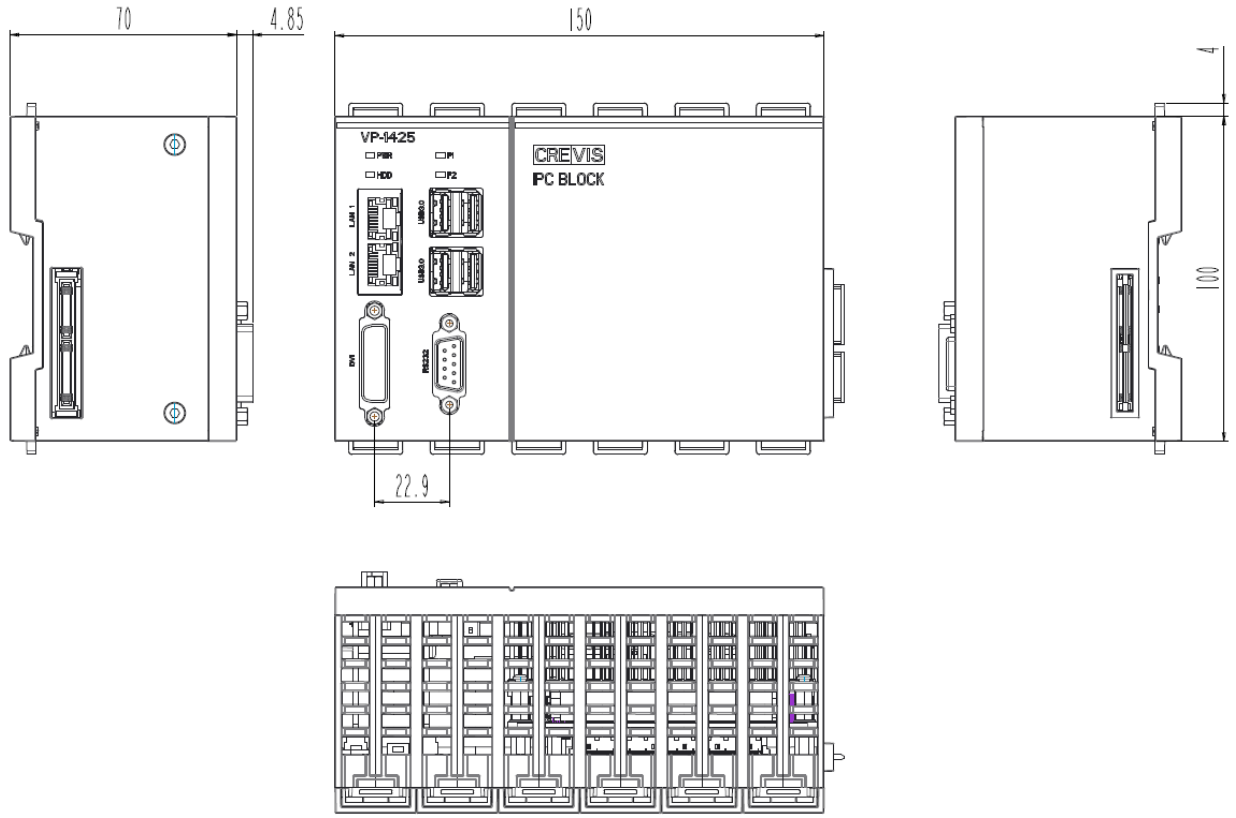
7) PC is re-booted and 'Windows Installation' box appears to start the installation.



5. Dimension

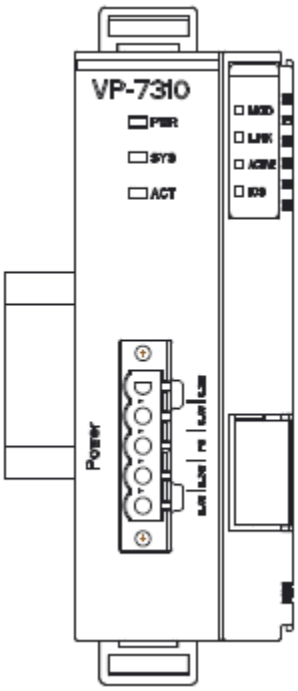
5.1. VP-14xx

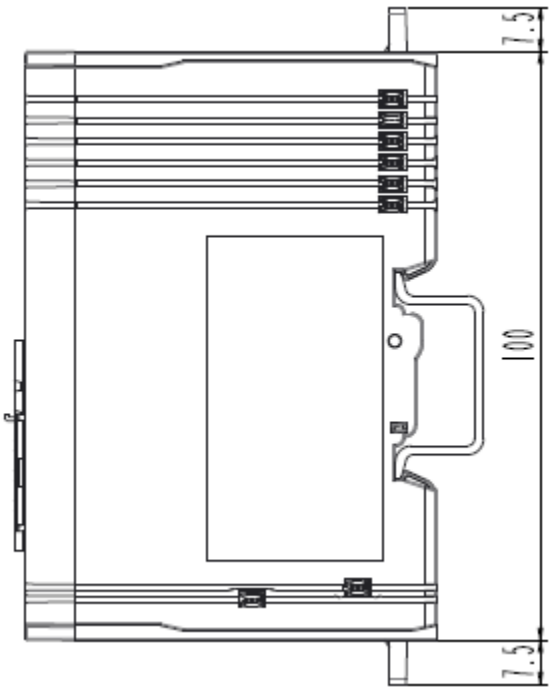
(mm)

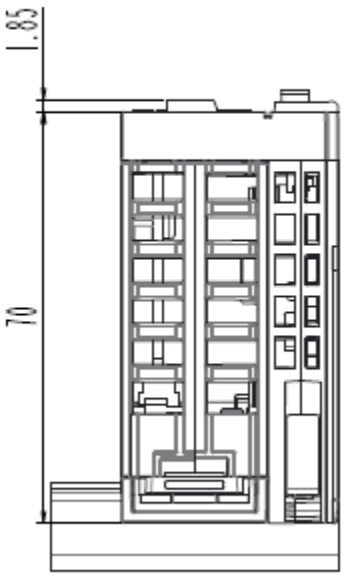


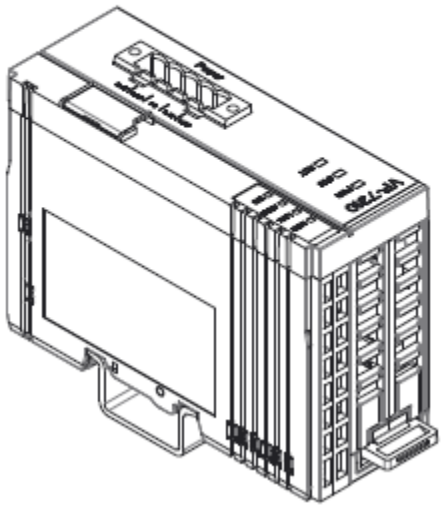
5.2. VP-7310

(mm)



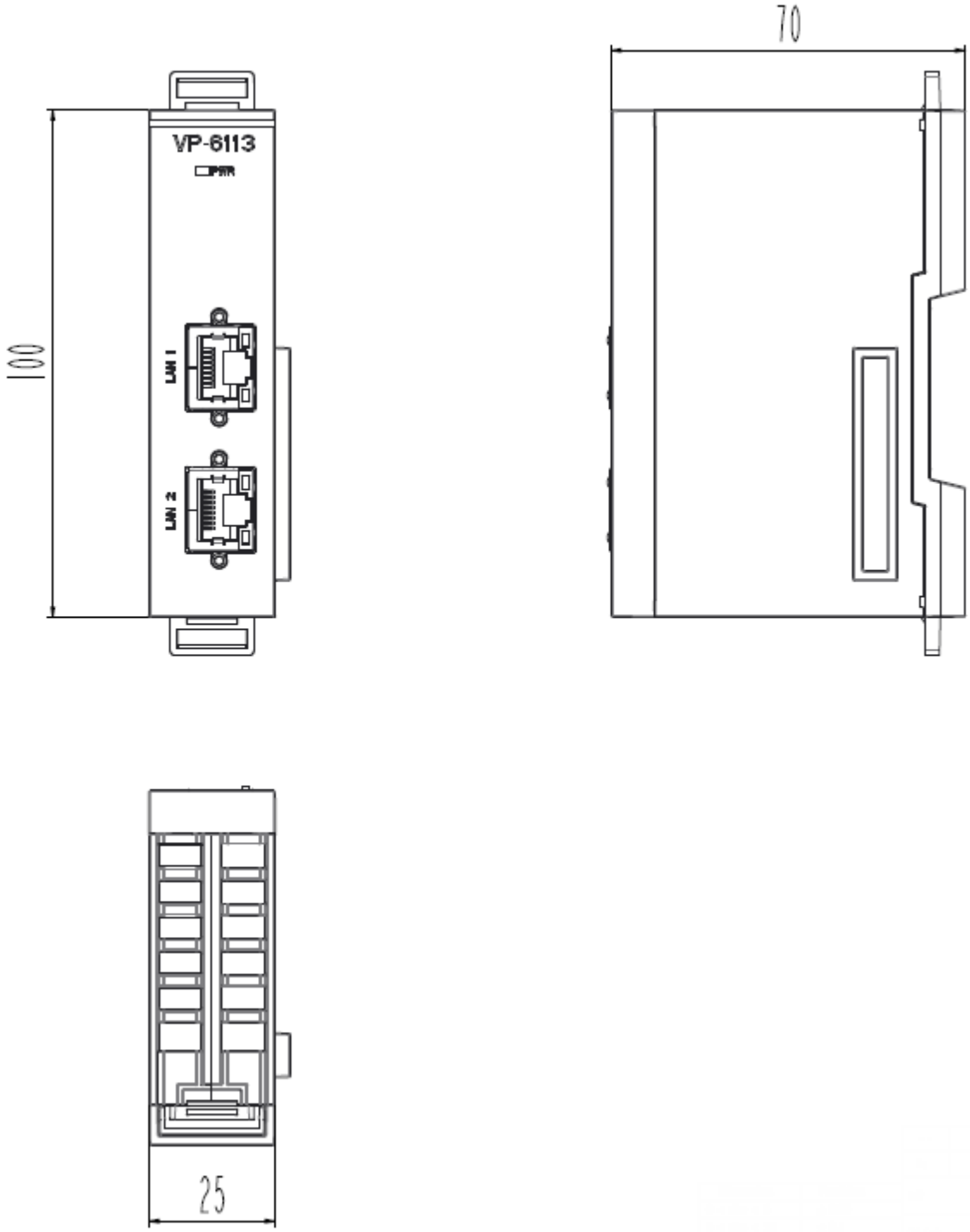






5.3. VP-6xxx

(mm)



6. Attachment

6.1. CamGuide Manual for Camera Setting

https://github.com/jyk4810/Repository/raw/master/CamGuide_manual_eng_rev1.0_180223.pdf

6.2. How to troubleshoot a blue screen error

https://github.com/jyk4810/Repository/raw/master/How%20to%20troubleshoot%20a%20blue%20screen%20error.pdf

6.3. ISMM Function User Manual

ISMM Function User Manual