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# Programmable Logic Controller Human Machine Interface Industrial Internet of Things



2018 Edition
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# **Cortex A9 1.4GHz**

**Super Size High Resolution** 

Aluminum Body



16000k colors

**TFT** 

Full view LCD screen

**High-definition** 

1920 × 1080 pixels

**High Resolution** 







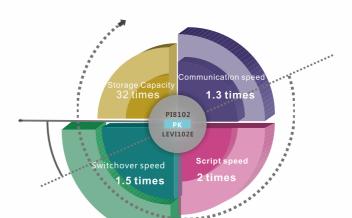




# PI8000 SERIES

### **High-end Configuration**





### CORTEX A8 CPU

- Flash 4GB EMMC
- Up to 32G SD card, 64G USB supported
- RS232/RS485/RS422 supported
- Isolated RS485 port with high security and reliability
- Ethernet, CAN bus, USB2.0 (USB Host; USB Client) port supported

# HTML5 as the background language, breaks through the traditional restrictions.



### **Exquisite Picture**

Thousands of graphics libraries, 3D effect in displaying instruments and machine parts.



### **Multilingual Support**

Up to 8 languages on display for your screen design.



**Multi-communication Port** 

Up to 5 serial ports, Ethernet port ,CAN protocol, over 200 protocols supported.



Extensive Peripheral Devices

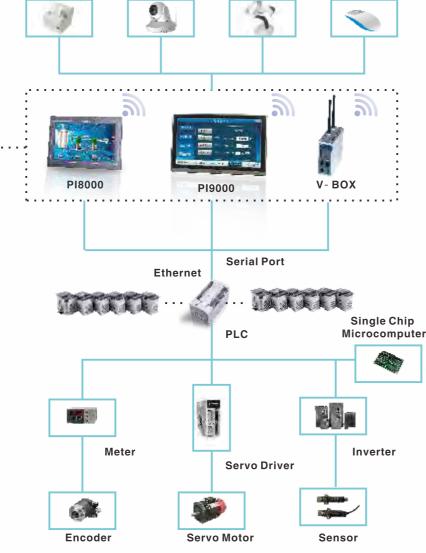
Mini-printer, Barcode scanner, WIFI,USB etc.

# **INTELLIGENT**

### **Cloud Platform**







### Cloud Monitoring

Wecon Smart App for Android/iPhone devices supports multiple users operating simultaneously on PI 8000/9000 Series.





# Smart Home





# **SECURITY**

### Cloud Message



**>>>** 

Debugging over cloud



In case of emergency, notification could be sent to your mobile and you can deal with it immediately.

Through connection over cloud, PLC and HMI could be connected to PC for online debugging and programming.

### **Security System**



### Access Authorization

Access authorization can be set to each button to protect against unauthorized operation or misoperation. Roles are to be assigned to users to facilitate management.



### Operation Record

- To record each step of operations from authorized users.
- Timestamp, buttons pressed and depressed, everything would be logged.
- Log files are stored in database format for data analyzation to improve management.



### Security Managment

- programmer password can be protected your project from unauthorized access or reverse engineering.
- Project password is to protect your project files against uploading and running on unauthorized HMIs.



### Password Security

Project password, access password, administration password and remote password are working together to insure secure access.





# PI3000 SERIES

### **LAN** monitor



### **A** Convenience

Monitoring software on PC can scan through LAN to find available HMI devices to add in its list for monitoring.



### **B** Security

All traffic is limited in LAN, no access from Internet. Simple and effective programming software, stable performance.

 Monitoring software on PC can scan through LAN to find available HMI devices to add in its list for monitoring.



Real-time synchronization between PC and HMI, ensure the accuracy of data.

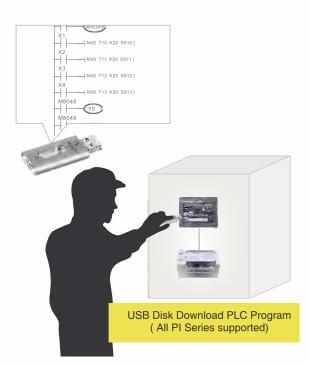
### c Data collection and storage

Up to 32G USB disk and SD card supported, SQL supported for data querying and analyzing.

### PLC firmware upgrade by USB stick



Remarks: this function is only for Wecon PLC



### **A** Convenience

Convenience in firmware upgrade without PC and extra data cable.

### **B** Usability

One USB stick can be used to upgrade multiple HMI panels.

### **c** Security

New firmware can be encrypted for safety. PLC program would be also encrypted during downloading.

# **PI3000 SPECIFICATIONS**

**Basic HMI** 





Model

PI3070N

PI3102N

	OS		Linu	ıx QT					
	CPU		Cortex A8						
	Screen S	izo.	7 Inch	10.2 Inch					
	Resolution								
	Brightness		800*480						
Diamlau			300cd/m <sup>2</sup>						
Display	Contrac		500:1						
	Backlight		LED						
	Backlight Life		50,000 hours						
	Colors	3	16, 000k Colors	260k Colors					
	Touch Screen		High precision for						
Flash			128	MB					
Storage	RAM		DDRIII						
	SD card		Comp	atible					
USB Host USB Client		ost	USB2	2.0x1					
		ent	USB2.0x1						
I/O ports	Serial Port	COM1	RS232/RS <sup>2</sup>	RS232/RS485					
		COM2	RS232/	RS485					
		COM3							
	Ethernet		YES						
	CAN		N/A						
	HDMIP	ort	N/A						
Perr	manent Calend	ar	Built-in						
	Power In	upt	24V DC(12~28V DC)						
Power Supply	Power Cons	umption	<10	w					
	Power Isol	lation	N/	A					
	Enclosu	ire	AB	3S					
D: .	Dimension	(mm)	201.0W*146.6H*36.5D	272.0W*190.5H*41.4D					
Dimension	Mounting Siz	ze (mm)	192.0W*138.0H	260.0W*179.0H					
	Weight (I	KG)	0.6	1. 2					
	Protecti	on	IP65(From	nt panel)					
Operation Environment  Working Environment  Relative Humidity		ronment	-30℃~	70℃					
		ronment	-10°C~60°C						
		midity	10~90	%RH					
	Seismic Res	sistance	10~25Hz(X、Y、Z din	ection 2G/30minutes)					
С	E Certification		EN 55032:2015; EN55024	:2010+A1:2015 Standard					
FC	CC Certification	1	FCC C	lass A					
	Software		PI Sti	udio					
R	emote Control		N/						

# **PI8000 SPECIFICATIONS**

# Advanced HMI







Model

PI8070

PI8102

PI8104

	OS		Linux QT							
	CPU		Cortex A8 600MHz							
	Touch Screen	า	High precision four- wire resistive							
	Screen Size		7 Inch	7 Inch 10.2 Inch						
	Resolution		800*480	800*480	800*600					
	Brightness		300cd/m <sup>2</sup>	300cd/m <sup>2</sup>	300cd/m <sup>2</sup>					
Display	Contr	ract		500:1						
	Backl	ight	LED							
	Backligh	nt Life		50,000 hours						
	Colo	ors	16, 000k Colors	260k Colors	260k Colors					
	Flas	sh		4GB EMMC						
Storage	RAI	М		DDRIII 512MB						
	SD card			Compatible						
	USB Host		USB Host:USB2.0x1; USB Client:USB2.0x1							
I/O		COM1	RS232, RS422/RS485							
	Serial Port	COM2		RS232,RS485						
ports		СОМЗ		RS485						
ports	Ethernet		YES	YES	YES					
	CAN		YES	YES	YES					
	HDMIports		N/A	N/A	N/A					
Peri	manent Caler	ndar	Built-in	Built-in Built-in						
	Power	Inupt	24V DC(12~28V DC)							
Power Supply	Power con	sumption	<10W	<10W	<10W					
	Power Is	olation		Built-in						
	Enclos	sure		ABS						
Dimension	Dimensio	n (mm)	201.0W*146.6H*36.5D	272.0W*190.5H*41.4D	299.0W*222.0H*54.0D					
Dimension	Mounting S	Size (mm)	192.0W*138.0H	260.0W*179.0H	288.0W*212.0H					
	Weight	(KG)	0.6	1.2	1.9					
	Protec	tion	IP65(Front panel)	IP65(Front panel)	IP65(Front panel)					
Operation	Storage En	vironment	Sto	orage:-30°C~70°C; Working:-10°C~6	0℃					
Environment	Working En	vironment		10~90%RH(Non-condensing)						
	Seismic res	sistance	1	0~25Hz (X,Y,Z direction 2G/3D minutes)						
CE Certification			EN 55032:2015; EN55024:2010+A1:2015 Standard							
F	CC Certificati	on		FCC Class A						
	Software			PI Studio						
Remote Control			Optional							

# **PI9000 SPECIFICATIONS**

High-end HMI







Model

PI9070

PI9120

PI9150

	OS			Linux QT						
	CPU			Cortex A9 1.4GHz						
7	ouch Screen	1	High precision four- wire resistive							
	Screen	Size	7 Inch	12 Inch	15 Inch					
	Resolution		1024*600	1920*1080	1920*1080					
	Brightness		300cd/m <sup>2</sup>	300cd/m <sup>2</sup>	220cd/m <sup>2</sup>					
Display	Contract		500:1							
	Backli	ght	LED							
	Backligh	nt Life		50,000 hours						
	Colo	rs		16,000K Colors						
	Flas	h		4GB EMMC						
Storage	RAM	М		DDRIII 512MB						
	SD Card			Compatible						
	USB H	lost	U	SB Host:USB2.0x1 ; USB Client:USB2.0	x1					
	Serial Port	COM1		RS232, RS422/RS485						
I/O		COM2		RS232,RS485						
ports		СОМЗ		RS485						
	Ethernet		YES							
	CAN		N/A							
Perr	nanent Calen	ndar	Built-in							
	Power I	nupt	24V DC(12~28V DC)							
Power Supply	Power cons	sumption	<20W							
	Power Iso	olation		N/A						
	Enclo	sure	ABS	Alum	inium					
	Dimension	(mm)	201.0W*146.6H*36.5D	312.6W*208.9H*49.0D	401.0W*251.0H*49.2D					
Dimension	Mounting Si	ize (mm)	192.0W*138.0H	306.0W*202.0H	394.0W*244.0H					
	Weigh	nt (KG)	0.6	2.2	3.1					
	Protec	tion		IP65(Front panel)						
Operation	Storage Environment		$Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: -10^{\circ}\text{C} \sim 60^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 50^{\circ}\text{C} \\ Storage: -30^{\circ}\text{C} \sim 70^{\circ}\text{C} \; ; \; Working: 0^{\circ}\text{C} \sim 70^$							
Environment	Working Environment			10 ~ 90 % RH (Non-condensing)						
	Seismic res	sistance	10	~ 25 Hz (X,Y,Z direction 2G/3D minute	s)					
С	E Certificatio	n	EN 550	32:2015; EN55024:2010+A1:2015 St	andard					
FC	C Certification	on		FCC Class A						
	Software			PI Studio						
Remote Control		ol	Optional							

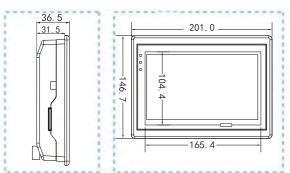
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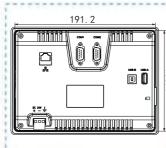
# **INSTALLATION DIMENSION**

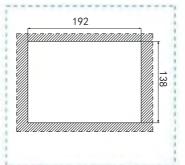
\*Unit: mm

PI9070





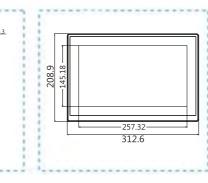


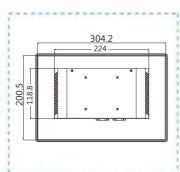


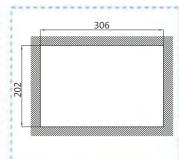
\*Unit: mm

PI9120



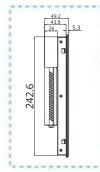


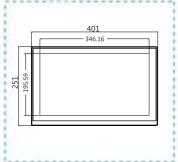


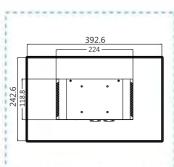


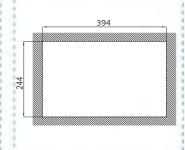
PI9150





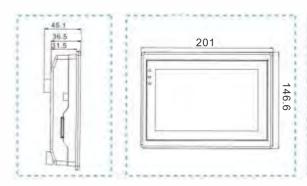


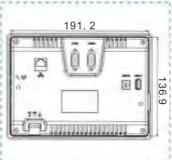


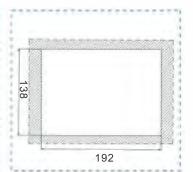


PI8070 / PI3070N



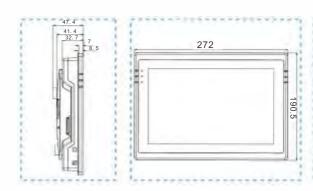


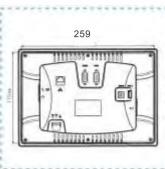


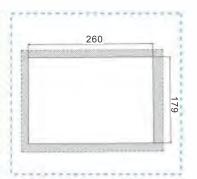


PI8102 /PI3102N



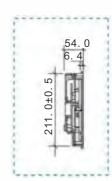


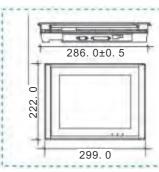


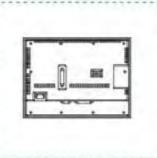


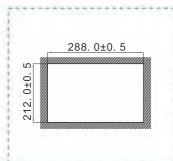
PI8104











# **WECON VNET IIoT SYSTEM**

### **VNET IoT**



Wecon Vnet System and V-BOX are designed to provide a safe and reliable Industrial-IoT System to users which ends independent operation of each device. We have used the latest State-of-art technologies of Clouds, IoT and Internet. The advanced concept and technology of Industry 4.0 facilitates small and medium scale industry to reduce information flow and management cost as well as increase productivity. It also helps to enhance aftersales Services.

VNET

Wifi/Ethernet

V-BOX

3G/4G

### **VNET SYSTEM**



- Connectivity of devices to Users;
- Connectivity of devices to devices;
- Connectivity of devices to CIS;

### Connectivity of devices to devices

- The devices will not work alone. For example, A packaging machine situated in Rome and another packaging machine situated in Shanghai can be synchronized.
- Real-time data sharing: Reduces the transmission process and transmission chain.
- This data sharing technology is also secure, reliable and economical.

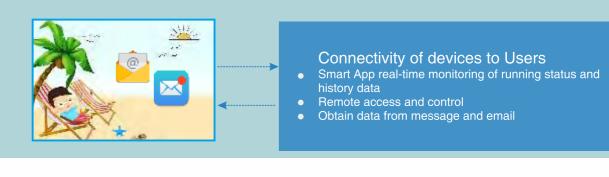


# **WECON VNET SYSTEM**

### **V-BOX Main Features**



- To obtain data through serial communication (RS232/RS485/Ethernet) from device controllers.
- Most brands of PLCs and controllers.
- It connects to cloud platform through 3G/4G/Ethernet.
- It can send SMS and Emails.
- Supports MODBUS, BACNET, etc.
- It also supports User-defined protocol
- Configuration System is user-friendly, secure and reliable.



### OPC

RDB(Remote DataBase) Interface

User-definded Interface

PMS(Production Management System

ERP System

CRM System

After-sales Service Management System

### Connectivity of devices to CIS

- With the help of OPC Server, RDB(Remote Data Base) and User defined data port can automatically upload the device data to information system;
- Distributes production instructions from CIS to devices directly;
- Real-time monitoring of Devices.

# **WECON VNET IIOT SYSTEM**

"\*" remarks in developing

### VNET System Technology Architecture



### VNET System Operation

- Presents simplified SCADA screens by Smart V-
- Sending SMS or emails through could platform.
- Connects cloud data and OPC system through OPC client, for as to remote control of the database.

### Management Features

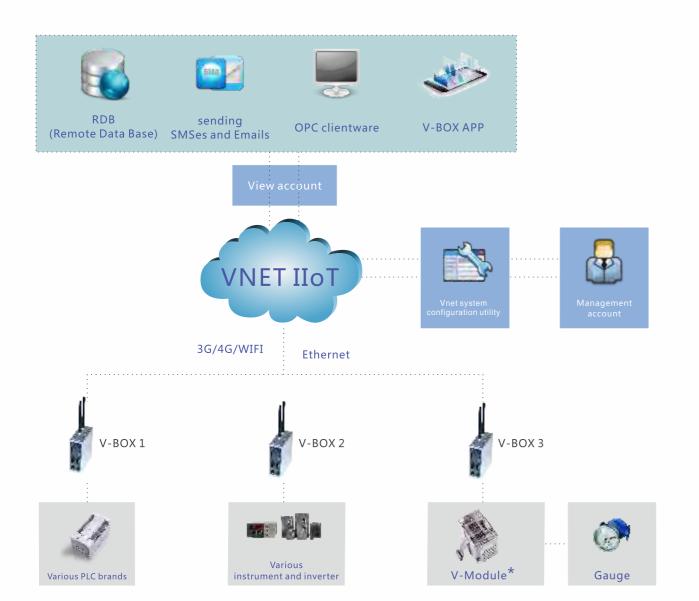
- Different "Accounts" for the Device vender and the user of Data.
- "View account" can display data of multiple V-boxes. Device owner can configure V-BOX remotely and
- also can organize "Management Account" easily.

### Supported devices/protocols

- Supports most brands of PLC Protocols.
- Supports MODBUS and BACNET.
- Supports User-defined Protocol.

### Cloud SCADA\*

- SCADA data save in cloud platform
- "Configuration utility" can configure simplified SCADA screens of all "View Accounts".



# **WECON VNET IIOT SYSTEM**

### **V-BOX SPECIFICATION**



	OS	Linux				
	CPU	Cortex A8 600MHz				
	Flash	128MB				
Storage	RAM	DDRIII 128MB				
	SD Card	YES				
	USB Host	USB2.0 x 1				
	USB Client	OTG USB/DEVICE USB				
		RS232×2				
I/O	Serial Port	RS422/RS485 Isolation				
Ports		Rs485×2 Isolation				
	Ethernet	YES				
	WIFI Module	YES				
	3G/4G Module	4G(Optional)				
Dower	Power Supply	24VDC(12~28V DC)				
Power	Power consumption	<10W				

	Enclosure	Aluminum			
Dimension	Dimension(mm)	118.0W*105.0H*44.3D			
Dimension	Mounting Size(mm)	136.0W*22. 0H			
	Net/Gross (KG)	0.34			
	Seismic Resistance	10 ~ 25 Hz (X、Y、Z direction 2G/30minutes)			
Operation	Storage Temperature	−30℃~70℃			
Environment	Working Temperature	−10℃~60℃			
	Relative Humidity	10 ~ 90%RH(Non-condensing)			
CE	E Certification	EN 55032:2015; EN55024:2010+A1:2015 Standard			
FCC Certification		FCC Class A			

# PROGRAMMABLE LOGIC CONTROLLER

### **PLC Introduction**



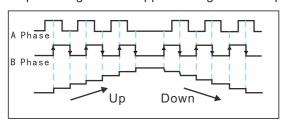
- Universal Power Supply Design —85~264V AC 50/60 HZ, wide range power supply.
- 2. All core components used are from well-known global brands.
- 3. The 'Three layer coating' ensures the reliability in harsh environment.
- 4. Flash memory data storage, saves data for at least one century even in the case failure of the battery.
- 5. 200 KHz high speed optical isolated designed Inputs/outputs.
- 6. Com port 600 TVS, static surge protection.
- RS485 communication port ensures the reliability of communication in vibration
- Most reliable and stable high speed USB port for programming download/monitor.



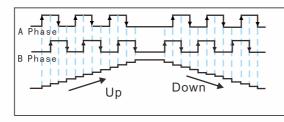
### **High Speed Pulse Input**



- External high speed pulse input supports Encoder (AB phase) input, pulse + direction mode input; Maximum support for 200 KHz pulse signal input.
- AB phase signal can support configurable frequency settings (i.e. x1, x2 or x4)



2-doubling

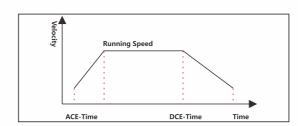


4-doubling

### High Speed Pulse Output



- Supports high speed pulse signal output with acceleration and deceleration.
- The acceleration and deceleration time are configurable.
- Pulse modulation output.



### **Program Encryption**



It prevents users from illegal copying and tampering of the program.

### Subprogram Encryption

Partial encryption function of the ladder diagram can be realized, and it can encrypt subprograms and interrupts. This function enables protection of important subprogram segment. By choosing the subprogram and setting the password, it can be encrypted. Once it has been encrypted than the subprogram is in "subprogram encryption" state and the contents encrypted will not be displayed.

### Ladder Encryption Methods

The PLC encryption includes project encryption, upload password and download password. All of those passwords can be used for the entire ladder program.

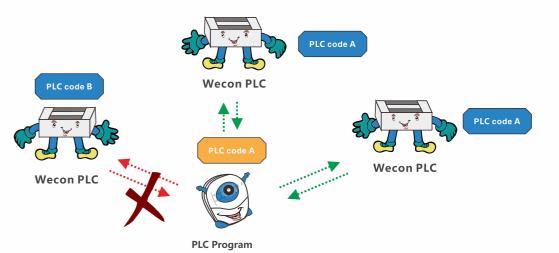
All these kinds of passwords are independent from each other (user need to set password separately during each of these operations), the password can be same or different to ensure copyright of PLC.



# PROGRAMMABLE LOGIC CONTROLLER

### PLC Host and Program Encryption

For additional protection of the program, project building can be dedicated to the specified PLC model. PLC identification code and program identification code can be introduced. User can set the program identification code of the project and also can set a PLC identification code for the PLC. So, the software will compare the program identification code and PLC identification code at every attempt of the upload or download of the program and can be executed to only designated PLC.



### **Modbus Listed Instruction**



In the original MODBUS protocol, users must program RS instruction in ladder. But the editing process is quite cumbersome and imperfect.

With the help of new method (RSLIST+RSLIST communication list), it becomes easier.



### **Features of PLC Wizard Function**



- Modules monitor function guides the user to monitor the BFM data in real time. This function reduces customer dependency on module manuals.
- It guides the user to generate the ladder program with the corresponding content (i.e. instruction, modules, BD board, etc.). It saves customer's comprehension time and reduces error which may occur while editing themselves. Also it will help the user to create functioning ladder more quickly.



**PID Operation Wizard Setting** 



LX-4AD Module Wizard Setting

# **APPLICATION**

### **PLC LX3VP Series**



- Supports 4 independent channels of 200 KHz high speed pulse simultaneously. The maximum frequency for each channel is 200 KHz (either in acceleration or deceleration).
- Supports 64 K step ladder diagram.
- Supports N:N PLC network up to 8 PLCs.
- T50~T191 can be converted to 1 ms non-cumulative timer by using special function register M8028.

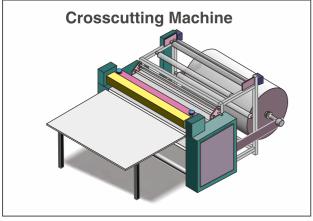
**Printing machine** includes several parts, including the front edge deliver component segment (with several printing segment), slot and dice segment. By using N:N communication protocol, several PLCs can communicate with each other which improves production efficiency significantly.



### **PLC LX3VE Series**



- Up to 4 channels each of 200 KHz high speed pulse outputs are supported, all 4 channels can work simultaneously.
- Supports 32k steps ladder diagram.
- Supports electronic CAM.



Crosscutting machine belongs to carton processing machinery. The crosscutting machine is used in the production line of the corrugated board. It is used for the cutting of the finished cardboard. The technical feature and equipment adjustment status directly affects the accuracy of the finished cardboard's cutting sizes and the appearance of the pressure line.

### PLC LX3VM Series



- Up to 4 channels independent 200 KHz high speed pulse output are supported, 4 channels can be used simultaneously.
- Supports 32k steps ladder diagram.
- Three axis liner interpolation (Y0,YI,Y2) and two axis circular interpolation are supported.

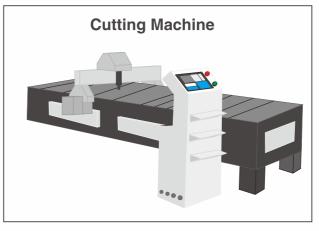
- Supports flying cut and rotary cut.
- Supports jitter pulse output.
- Supports S-type curve to meet special demands.



Side Cutting Machine is a CNC machine for punching of holes in the side of the plate type furniture. It is suitable for horizontal hole machining and horizontal slotting. It has features like, Infrared automatic induction, accurate detection of the hole position, accurate movement distance, low error, simple operation, eliminate the need of skilled workers, convenient and efficient.

- Supports electronic CAM.
- Supports Jitter pulse output.

# **APPLICATION**



Through the linear-circle interpolation function, the cutting machine realizes the multi axis path positioning control, improves cutting efficiency, quality and relieves the working intensity.

### LX3V-2WT



- 2 channels weighing signal input.
- Hardware 24-bits AD input (2: 24-bit Resolution).
- Support 1~2400 Hz frequency conversion.
- Adjustable setting of Digital filter.
- Adjustable setting of Tare weight and Net weight.

Screw packaging machine is a typical equipment for vibrating plate feeding, screw weighing and packaging. It is difficult to count the actual number of screws dropped down from plate by optical bit counter because of the irregular shape of the object to be weighed. Therefore, it is divided into multistage speed to control the vibration of the feeding plate, it uses the round up and round down (half adjust) to complete counting process. The first part uses the weight measurement, the second part uses the number to compare whether the set weight is achieved.

### LX3V-4LTC



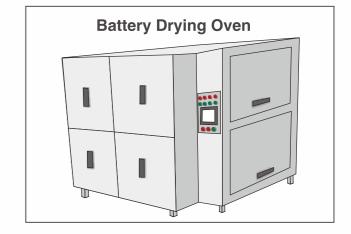
LX3V-4LTC is temperature control module, it has four temperature input ports and four transistor output ports (open collector). It reads data from the thermocouple, and give output value with PID control algorithm.

Battery Drying Oven, its working process includes warming – cooling – vacuum – forcing – nitrogen filling. The project has total 100 processes comprises two different process cycles. Data monitoring, data acquiring, PID Auto-tuning (self-tuning). Measurement of Temperature at different 12 points. There difference in the temperature at upper, lower, middle, center of the oven. So, temperature gradient is there and homogeneity of the oven is affected.



Glue injector machine realizes multi-axes path positioning control through linear arc interpolation function and operate it according to the set path. It can be set to semi-automatic, fully automatic, adjustment and other modes.





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# **EXPANSION MODULE**

### **PLC EXPANSION MODULE**



### ■ Multi-module connection:

Maximum 16 analog modules (requires additional power

Maximum 8 Digital modules (requires additional power

- DA module resolution :12 bits
- PT/TC module resolution

S-type sensor:-50~+1768	(degree centigrade)
R-type sensor:-50~+1768	(degree centigrade)
B-type sensor:+250~+1820	(degree centigrade)
N-type sensor:-200~+1300	(degree centigrade)
E-type sensor:200~+1000	(degree centigrade)
T-type sensor:-200~+400	(degree centigrade)
J-type sensor: -210~+600	(degree centigrade)
K-type sensor:-200~+1372	(degree centigrade)
PT100 sensor:-200~+600	(degree centigrade

### ■ AD module resolution :16 bits

■ WT module resolution :24 bits



### LX3V-8iTC



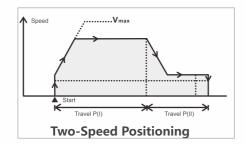
- 8 channels for temperature acquiring; Multiple sensor types are supported; Supports thermocouple types like K, S, E, N, B, T, J and R.
- All 8 channels are isolated from each other.
- Built-in cold junction compensation, external cold junction compensation, freezing cold junction compensation method.

# Self-tuning

### LX3V-4PGA



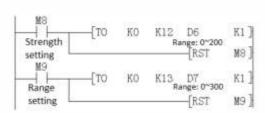
- Supports 4-channel high speed pulse outputs.
- Supports zero point return, JOG, interrupt position and twospeed pulse control.
- Supports S-type acceleration and deceleration.
- Maximum supports for 200k pulse output.
- Interrupt signal, origin signal input.



### LX3V-2WT



- 2 channels weighing signal input.
- Hardware 24-bits AD input (2: 24-bit Resolution).
- Supports 1~2400 Hz frequency conversion.
- Adjustable setting of Digital filter.
- Adjustable setting of Tare weight and Net weight.
- Zero-tracking can reduce the influence of temperature drift effective.



# **BD BOARD**

### Analog BD BOARD





Model	Resolution	Input/Output Range	Data Range
DA	12	Output Current: 4~20mA	0~2000
AD	12	Input Current: 4~20mA	0~2000
PT	14	Sensor:PT100-100~600°C	-1000~6000
TC	14	Sensor:Ktype-100~1200°C	-1000~12000
TC	14	Sensor:Jtype-100~600°C	-1000~6000
DAV	12	Output Voltage:-10~10V	-2000~2000
ADV	12	Input Voltage:-10~10V	-2000~2000

### **Communication Expansion**







### LX3VP-ETH-BD



### LX3V-2RS485-BD can add two additional RS485 communication ports.

- · Data transfer without protocol It supports all type of devices with RS-485 communication without protocol. e.g. bar code reader and printer. Data's sending and receiving is implemented by the RS instruction.
- Special protocol for data transferring Using a special protocol, data transmission can be possible based on 1: N on RS-485 communication.

### By using LX3VP-ETH-BD, Ethernet port can be added.

- Supports Modbus-Tcp protocol.
- Maximum 8 devices can be connected (no master-slave) to one LX3VP-EH-BD module.
- **LX3VP-CAN Communication** (Only some models of 3VP supported [LX-3VP2416 Mix supported])
- · For Good real-time communication, strong correction ability and stable communication.
- Supports CANopen standard protocol DS301 V4.02.
- Supports 16 slave devices when used as master.
- · Free configuration by using CANopen network configuration software "CANopen Tool".
- · It works as a master or a slave.

# **LX3V SERIES PLC PRODUCT**

# LX3V Series

**>>** 

PLC Model	I/O	Output type	Dimension (mm)	Pulse Counter	Pulse Output	RS485	BD Board	Module	Power Supply
LX3V-0806MR-A1(D1)	8/6	Relay	75x107x87	2	0	1	1	N/A	AC(DC)
LX3V-0806MT-A1(D1)	8/6	Transistor	75x107x87	2	2	1	1	N/A	AC(DC)
LX3V-0806MR-A2(D2)	8/6	Relay	75x107x87	2	0	1	1	N/A	AC(DC)
LX3V-0806MT-A2(D2)	8/6	Transistor	75x107x87	2	2	1	1	N/A	AC(DC)
LX3V-1208MR-A1(D1)	12/8	Relay	75x107x87	2	0	1	1	N/A	AC(DC)
LX3V-1208MT-A1(D1)	12/8	Transistor	75x107x87	2	2	1	1	N/A	AC(DC)
LX3V-1208MR-A2(D2)	12/8	Relay	75x107x87	2	0	1	1	N/A	AC(DC)
LX3V-1208MT-A2(D2)	12/8	Transistor	75x107x87	2	2	1	1	N/A	AC(DC)
LX3V-1208MR2H-A2(D2)	12/8	Mix	75x107x87	2	2	1	1	N/A	AC(DC)
LX3V-1212MR-A(D)	12/12	Relay	136x107x87	2	0	1	1	YES	AC(DC)
LX3V-1212MT-A(D)	12/12	Transistor	136x107x87	2	2	1	1	YES	AC(DC)
LX3V-1212MT4H-A(D)	12/12	Transistor	136x107x87	2	4	1	1	YES	AC(DC)
LX3V-1212MR2H-A(D)	12/12	Mix	136x107x87	2	2	1	1	YES	AC(DC)
LX3V-1412MR-A(D)	14/12	Relay	136x107x87	2	0	1	1	YES	AC(DC)
LX3V-1412MT-A(D)	14/12	Transistor	136x107x87	2	2	1	1	YES	AC(DC)
LX3V-1412MT4H-A(D)	14/12	Transistor	136x107x87	2	4	1	1	YES	AC(DC)
LX3V-1412MR2H-A(D)	14/12	Mix	136x107x87	2	2	1	1	YES	AC(DC)
LX3V-1616MR-A(D)	16/16	Relay	175x107x87	2	0	1	2	YES	AC(DC)
LX3V-1616MT-A(D)	16/16	Transistor	175x107x87	2	2	1	2	YES	AC(DC)
LX3V-1616MT4H-A(D)	16/16	Transistor	175x107x87	2	4	1	2	YES	AC(DC)
LX3V-1616MR2H-A(D)	16/16	Mix	175x107x87	2	2	1	2	YES	AC(DC)
LX3V-2416MR-A(D)	24/16	Relay	175x107x87	2	0	1	2	YES	AC(DC)
LX3V-2416MT-A(D)	24/16	Transistor	175x107x87	2	2	1	2	YES	AC(DC)
LX3V-2416MT4H-A(D)	24/16	Transistor	175x107x87	2	4	1	2	YES	AC(DC)
LX3V-2416MR2H-A(D)	24/16	Mix	175x107x87	2	2	1	2	YES	AC(DC)
LX3V-2424MR-A(D)	24/24	Relay	221x107x87	2	0	1	2	YES	AC(DC)
LX3V-2424MT-A(D)	24/24	Transistor	221x107x87	2	2	1	2	YES	AC(DC)
LX3V-2424MT4H-A(D)	24/24	Transistor	221x107x87	2	4	1	2	YES	AC(DC)
LX3V-2424MR2H-A(D)	24/24	Mix	221x107x87	2	2	1	2	YES	AC(DC)
LX3V-3624MR-A(D)	36/24	Relay	221x107x87	2	0	1	2	YES	AC(DC)
LX3V-3624MT-A(D)	36/24	Transistor	221x107x87	2	2	1	2	YES	AC(DC)
LX3V-3624MT4H-A(D)	36/24	Transistor	221x107x87	2	4	1	2	YES	AC(DC)
LX3V-3624MR2H-A(D)	36/24	Mix	221x107x87	2	2	1	2	YES	AC(DC)

# **LX3VP SERIES PLC PRODUCT**

## **LX3VP Series**

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PLC Model	I/O	Output type	Dimension (mm)	Pulse Counter	Pulse Output	RS485	CAN	BD Board	Module	Power Supply
LX3VP-1208MR-A(D)	12/8	Relay	75x107x87	2	0	1	N/A	1	N/A	AC ( DC )
LX3VP-1208MT-A(D)	12/8	Transistor	75x107x87	2	2	1	N/A	1	N/A	AC ( DC )
LX3VP-1212MR-A(D)	12/12	Relay	136x107x87	2	0	1	N/A	1	YES	AC ( DC )
LX3VP-1212MT-A(D)	12/12	Transistor	136x107x87	2	2	1	N/A	1	YES	AC ( DC )
LX3VP-1212MT4H-A(D)	12/12	Transistor	136x107x87	2	4	1	N/A	1	YES	AC ( DC )
LX3VP-1212MR2H-A(D)	12/12	Mix	136x107x87	2	2	1	N/A	1	YES	AC ( DC )
LX3VP-1412MR-A(D)	14/12	Relay	136x107x87	2	0	1	N/A	1	YES	AC ( DC )
LX3VP-1412MT-A(D)	14/12	Transistor	136x107x87	2	2	1	N/A	1	YES	AC ( DC )
LX3VP-1412MT4H-A(D)	14/12	Transistor	136x107x87	2	4	1	N/A	1	YES	AC ( DC )
LX3VP-1412MR2H-A(D)	14/12	Mix	136x107x87	2	2	1	N/A	1	YES	AC ( DC )
LX3VP-1616MR-A(D)	16/16	Relay	175x107x87	2	0	1	N/A	2	YES	AC ( DC )
LX3VP-1616MT-A(D)	16/16	Transistor	175x107x87	2	2	1	N/A	2	YES	AC ( DC )
LX3VP-1616MT4H-A(D)	16/16	Transistor	175x107x87	2	4	1	N/A	2	YES	AC ( DC )
LX3VP-1616MR2H-A(D)	16/16	Mix	175x107x87	2	2	1	N/A	2	YES	AC ( DC )
LX3VP-2416MR-A(D)	24/16	Relay	175x107x87	2	0	1	Optional	2	YES	AC ( DC )
LX3VP-2416MT-A(D)	24/16	Transistor	175x107x87	2	2	1	Optional	2	YES	AC ( DC )
LX3VP-2416MT4H-A(D)	24/16	Transistor	175x107x87	2	4	1	Optional	2	YES	AC ( DC )
LX3VP-2416MR2H-A(D)	24/16	Mix	175x107x87	2	2	1	Optional	2	YES	AC ( DC )
LX3VP-2424MR-A(D)	24/24	Relay	221x107x87	2	0	1	N/A	2	YES	AC ( DC )
LX3VP-2424MT-A(D)	24/24	Transistor	221x107x87	2	2	1	N/A	2	YES	AC ( DC )
LX3VP-2424MT4H-A(D)	24/24	Transistor	221x107x87	2	4	1	N/A	2	YES	AC ( DC )
LX3VP-2424MR2H-A(D)	24/24	Mix	221x107x87	2	2	1	N/A	2	YES	AC ( DC )
LX3VP-3624MR-A(D)	36/24	Relay	221x107x87	2	0	1	N/A	2	YES	AC ( DC )
LX3VP-3624MT-A(D)	36/24	Transistor	221x107x87	2	2	1	N/A	2	YES	AC ( DC )
LX3VP-3624MT4H-A(D)	36/24	Transistor	221x107x87	2	4	1	N/A	2	YES	AC ( DC )
LX3VP-3624MR2H-A(D)	36/24	Mix	221x107x87	2	2	1	N/A	2	YES	AC ( DC )

# LX3VE&3VM SERIES PLC PRODUCT

PLC Model	I/O	Output type	Dimension (mm)	Pulse Counter	E-CAM	Pulse Output	RS485	BD Board	Module	Power Supply
LX3VE-1412MT-A	14/12	Transistor	136x107x87	2	YES	2	1	1	YES	AC
LX3VE-1412MT4H-A	14/12	Transistor	136x107x87	2	YES	4	1	1	YES	AC
LX3VE-1616MT-A	16/16	Transistor	175x107x87	2	YES	2	1	2	YES	AC
LX3VE-1616MT4H-A	16/16	Transistor	175x107x87	2	YES	4	1	2	YES	AC
LX3VE-2416MT-A	24/16	Transistor	221x107x87	2	YES	2	1	2	YES	AC
LX3VE-2416MT4H-A	24/16	Transistor	221x107x87	2	YES	4	1	2	YES	AC
LX3VE-2424MT-A	24/24	Transistor	221x107x87	2	YES	2	1	2	YES	AC
LX3VE-2424MT4H-A	24/24	Transistor	221x107x87	2	YES	4	1	2	YES	AC
LX3VE-3624MT-A	36/24	Transistor	221x107x87	2	YES	2	1	2	YES	AC
LX3VE-3624MT4H-A	36/24	Transistor	221x107x87	2	YES	4	1	2	YES	AC

PLC Model	I/O	Output type	Dimension (mm)	Pulse Counter	E-CAM	Inter- polation	Pulse Output	RS485	BD Board	Module	Power Supply
LX3VM-1412MT-A	14/12	Transistor	136x107x87	2	YES	YES	2	1	1	YES	AC
LX3VM-1412MT4H-A	14/12	Transistor	136x107x87	2	YES	YES	4	1	1	YES	AC
LX3VM-1616MT-A	16/16	Transistor	175x107x87	2	YES	YES	2	1	2	YES	AC
LX3VM-1616MT4H-A	16/16	Transistor	175x107x87	2	YES	YES	4	1	2	YES	AC
LX3VM-2416MT-A	24/16	Transistor	221x107x87	2	YES	YES	2	1	2	YES	AC
LX3VM-2416MT4H-A	24/16	Transistor	221x107x87	2	YES	YES	4	1	2	YES	AC
LX3VM-2424MT-A	24/24	Transistor	221x107x87	2	YES	YES	2	1	2	YES	AC
LX3VM-2424MT4H-A	24/24	Transistor	221x107x87	2	YES	YES	4	1	2	YES	AC
LX3VM-3624MT-A	36/24	Transistor	221x107x87	2	YES	YES	2	1	2	YES	AC
LX3VM-3624MT4H-A	36/24	Transistor	221x107x87	2	YES	YES	4	1	2	YES	AC

# **MODULE&BD BOARD PRODUCT**

### PLC Module



Module	Specification	Module	Specification
LX3V-8EX	8 Input	LX3V-4AD	4 * Analog Input
LX3V-8EYR	8 Relay Output	LX3V-4DA	4 * Analog Output
LX3V-8EYT	8 Transistor Output	LX3V-4PT	4 * Thermal Resistance Input
LX3V-16EX	16 Input	LX3V-4TC	4 * Thermocouple Input
LX3V-16EYR	16 Relay Output	LX3V-4LTC	4 * TC with Isolation(PID Control)
LX3V-16EYT	16 Transistor Output	LX3V-8iTC	8*Thermocouple Input
LX3V-1WT	1 * Weighting	LX3V-2WT	2 * Weighting

# **MODULE AND BD BOARD PRODUCT**

LX3V-4PGA 4\*pulse generator (Advanced) LX3V-4PGB 4\*pulse generator (Basic)

### PLC BD Board



BD Board	Function	BD Board	Function
LX3V-2AD2DA-BD	2*Analog Input/Analog Output(4~20mA)	LX3V-2TC-BD	2*Thermocouple Input
LX3V-2ADV-BD	2*Analog Voltage Input(-10v-10v)	LX3V-2TC2DA-BD	2*Thermocouple Input; 2*Analog Output(4~20mA)
LX3V-2ADI-BD	2*Analog Current Input(4-20mA)	LX3V-2PT-BD	2*Thermal Resistance Input
LX3V-2DAI-BD	2*Analog Current Output(4-20mA)	LX3V-2PT2DA-BD	2*Thermal Resistance Input; 2*Analog Output(4~20mA)
LX3V-2DAV-BD	2*Analog Voltage Output(-10v-10v)	LX3V-2PT2DAV-BD	2*Thermocouple Input; 2*Analog Voltage Output(-10v~10v)
LX3V-4ADV-BD	4*Analog Input(-10V~10V)	LX3V-2PT2ADV-BD	2*Thermocouple Input; 2*Analog Voltage Output(-10v~10v)
LX3V-4ADI-BD	4*Analog Input(4~20mA)	LX3V-2RS485-BD	2*RS485 Communication
LX3VP-ETH-BD	1*Ethernet Communication	LX3V-2ADV2ADV-BD	2*Analog Input/Output(-10v~10v)

# **PLC SPECIFICATIONS**

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General			
	LX3V Series	LX3VP Series	LX3VE/3VM Series
Running Mode	Round Scan/Interrupt		
Programming	Instruction List/Ladder		
Total Instructions	Basic Instructions:27/Applied Instruction:136+2 140		
Execute time	Basic Instructions:0.06us/Applied Instruction:1~10us		
System Storage	16K	64K	32K
Download/Monitoring	Serial Programming Cable/MiniUSB		
ligh Speed Pulse Output	Transistor: 2 channels(4 channel optional)/Relay N/A(2 channel optional)		
External Interrupt	6 Channels		
Timer Interrupt	3 Channels		
Holding Addresses	Adjustable		
Storage	FLASH		
Filter	For all X input terminals		
Serial Port		COM1: RS422 or RS485	
Schair of C		COM2 : RS485	
Temperature	Working Temperature: 0~55°C/ Storage Temperature: 0~70°C		
Humidity	35~85%RH ( Without condensation )		
Shock Resistance	JISC0040 Standard		
Noise Immunity	Noise Voltage:1000Vp-p, Pulse Width:1us, Frequency:30~100Hz(Noise Simulator)		

# **PLC SPECIFICATIONS**

### Output



Item		Relay Output	Transistor Output
Output Mode			NPN
Input Power Supply		DC 24V	DC 24V
Output Circuit		<ac 250v;<dc="" 30v<="" td=""><td>DC 5~30V</td></ac>	DC 5~30V
COM Port Current			<0.1mA ( DC30V )
Insulation		Mechanistic	Optical Coupling
Leak current			0.1mA/DC30V
Min.Load			DC 5V2mA
	Resistive	2A point 8A COM port	0.5A point 0.8A COM port 0.3A HSPO point
Max.Load	Inductive	80VA	12W/DC 24V7.2WHSPO point
	General	100W	0.9W/DC 24V
ResponseTime	ON	<10ms	<0.2ms
	OFF		(Pulse out put terminal: <5us)

## **AC Power Supply**



Item	LX3V(P)-0806M/1208M/1212M/1412M	LX3V(P)1616M/2416M/3624M
Voltage	AC100~24	10V50~60Hz
Power Outage Time	10ms	
Rush Current	<15A 5ms/AC 100V;<30A 5ms/AC 200V	
Power Fuse	250V1A	250V3.15A
Power Consumption <35W		<60W
Power Output DC 24V 850mA		DC 24V 700mA

### DC Power Supply



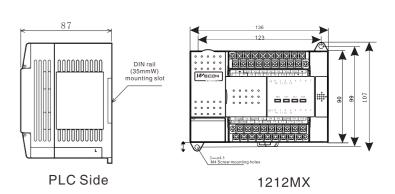
Item	LX3V/LX3VP
Power Supply	DC 24V±10%
Power Outage Time	10ms
Power Fuse	250V 3.15A
Rush Current	<15 A1ms/DC 24V
Power Consumption	<30W

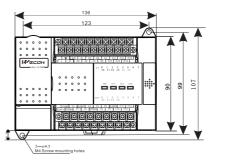
# **PLC SPECIFICATIONS**

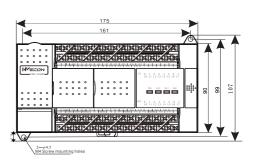
# **PLC Dimension**

0806MX/1208MX

**>>** 

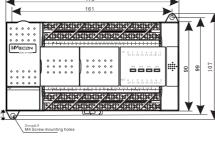


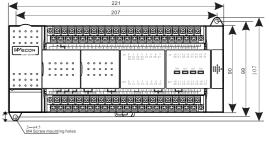




1412MX

1616MX



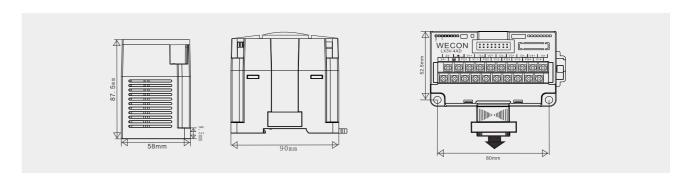


2416MX

2424MX/3624MX

# LX3V-[][][]-Module





\*Unit: mm