WECON TECHNOLOGY

Programmable Logic Controller

L X3v Series User Manual
Thank you for pruchasing the LX3v Series programmable logic controller.

The information in this User's Manual, including text, diagrams The information in this User's Manual, including text, diagrams and explanations, which will guide the reader in the correct installation and operation of the LX3v series PLC, and should be understood before attempting to install or use the products.

The Information provided in this manual may be changed without

Warning notice indicates which will cause either personal serious injury or damage to equipment, if notice is not taken.

Caution notice indicates which possible cause either personal serious injury or damage to equipment, if notices is not taken. NOTE: Depending on the circumstances, indicated by CAUTION may also cause serious injury. In any case, it is important to follow this manual properly. Always inform the customers about this manual.

1.Design Precautions

♦ WARING

To ensure safety system operation, Please configure emergency braking circuit, positive inversion circuit or other similar protection circuit for PLC, which protection circuit can prevent the damage to PLC or other

- exteres.

 All outputs are turned off, as an error be detected by PLC CPU during self-detected by PLC CPU during self-detected, as an error be detected by PLC CPU during self-detected, internal protection circuit may be disabled on error that cannot be detected, internal protection circuit may be disabled.

 The output state of relay or transistor in the PLC can not be controlled, when relay or transistor is damaged.

2.Installation Precautions

♦ WARING

- Always make sure to install PLC on vertical plane, not
- 50 mm safe distance must be kept with other devices, and far away from the high-voltage power line, high-voltage device and the power equipment.

⚠ CAUTION

- Never use the product on condition with dust, oily smoke, conductive dusts Corrosive gas, flammable gas, vibration or impacts, or expose to high Never use the product on condition with dust, any smoke, curusuave uses, Corrosive gas, filammable gas, vibration or impacts, or exposes to high temperature, life or rain.
 Do not leave anything in the vent, when installation or wiring is completed,
 Always make sure to remove the dust proof sheet from the PLC's vent when
 Put connection cables, storage boxes, display module in proper srocket, bad connection may led to serious consequences

3.Wiring Precautions

- Before installation and wiring, you must clid fif the power.

 Before running, please make surfo attach the cover for terminal on PLC.

 That positive inversion contactor are worked on at the same time will be dangerous.

 Real contactor are worked on at the same time will be dangerous.

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∆CAUTION

- ◆Please follow the instruction to connect with power supply which provided in this manual. The range of AC source must be from 100V to 240V.
 ◆ Please never directly connect terminal with external power supply which is over
- Separately grounding is recommended. The signal input cable and the signal output cable can not go with the same cable.
- Never put the signal input/output cable and other power cable together.
- It would be more safer if the cable within 20m.
- Note: The PLC would stop working, if the power-off time is over 10ms. The PLC would stop working with the long time power-off or low voltage, and the all the output of this PLC will be OFF. The PLC would continue work automatically with normal power supply.

4.Maintenance Precautions

♦ WARING

Never touch the PLC when power is on,
Never clean up PLC when power is on, that may cause the electric shock.
The manual should be understood before attempting to install or program.

△ CAUTION

- Never modify structure of PLC.
 If there is something wrong with our products please contact Wecon technology.
- company.

 Working with high frequency and large capacity load will shorten service life.

 Please check the following items:
 Keep far away from directing sunshine or other heating element, because that would raise the temperature of PLC.
- rould raise the temperature of PLC.

 Make sure there is no dust or electrical dust in the PLC. Make sure there is no anomaly in the PLC.

5.Module&Product specification



2 Input blocks 3 Output blocks 4 Output display 5 Input display 6 Power LED Run LED Error LED | RUNISTOP | COM2 (Optional) | Socket for additional module | USB download port | Socket for BD board

6. Communication Interface cation port, support Rs422 (Standard) The LX series PLC has two comm ind Rs485 (Optional)

Received data (negative)

Pinout of COM1 and COM2. Pin Signal Description COM1 Received data (negative) Received data (positive)

programming port	ı		1	RXD-	Received data (negative)
<u> </u>	ı		2	RXD+	Received data (positive)
	ı		3	GND	Signal ground
(H:::H)	ı	COM1	4	TXD-	Transmitted data (negative)
		(Rs422 standard)	5	+5V	Output voltage is +5V, The same as the internal voltage
(Rs422 and Rs485 in this	ı		6	NC	Empty
port can't be used at same time)	ı		7	TXD+	Transmitted data (positive)
	ı		8	NC	Empty
A+ B- A+ B-	ı	COM2	Pin	Signal	Description
COM1 COM2 GND	ı	(Rs485	A+	485+	Received data (positive)
COM1 COM2	ı	optional)	B-	485-	Received data (negative)

IL		_
7.	Model	

ОЖ



8.Electrical Specification

Model	LX3V-24M □ -A	LX3V-32/40/60M□-A	
Rated voltage	AC 100V ~ 240V		
Voltage range	AC 85V ~ 2	264V	
Rated frequency	50/60HZ		
Power outage time	continue to work with less than	10ms power outage time	
Power fuse	250V 1A 5φX20mm	250V 3.15A 5φX20mm	
Impulse current	Less than 20A 5	ms/AC100V	
Power (W)	30W	50W	
Sensor power supply	DC 24V	700mA	

9.Enverornmental Specifications

Temperature	Using:0~55 ℃ Saving: -20~70℃					
Humidity 35~85%RH(no condensation)						
			JIS C 0040 s	tandards		
		Frequency	Acceleration	Amplitude		
Resistance		10~57Hz		0. 035mm		
to vibration	DIN rail installed	57~150Hz	4.9m/\$ 2		10 times of X,Y,Z	
		10~57Hz		0.075mm	(80 minutes from every direction	
	Directly installed	57~150Hz	9.8m/S ²			
impact resistance		JIS C 0041 standard			•	
Resistance to noise	Noise voltage 1000Vp-p noise 1µs up to 1ns frequency 30~100Hz noise simulation					
Voltage resistance	AC1500V (1 minute)			Confirm with JEM-1021		
Insulation resistance	0	C500V is mo	re than 5MΩ		COMMINI WILL DEWI-1021	
Grounding	PLC Special groudin	DEVICE g(Best)	PLC Common groun	DEVICE oding(Better)	PLC DEVICE Grounding together(Never)	

No corrosive gas, combustible gas, or electrical dust

10. Input Specifications

	Model	LX3v
	Power supply	AC power supply, DC output
	Input single voltage	DC24V ±10%
	Input single current	7mA/DC24V(X002 or later, 5mA/DC24V)
	Input ON current	4.5mA or more(behind X002, 3.5mA/DC24V)
	Input OFF current	Less than 1.5mA
	Input responding time	About 10ms
ı		X000-X005 change D8020 into 0-15ms by the x built-in digital filter inside
	Input single type	Contact input or NPN,PNP Open electrode transistor input
ĺ	Insulated return	Optocoupler insulation
	Input status	When input is ON, LED is on

11.Output Specification

Output type Model		Relay	Transistor	
		D	(3v	
Pov	ver supply	Less than AC250V/DC30V	DC5~30V	
Loop	insolation	Mechanical insulation	Photoelectric coupling insulation	
Action		Relay coil drived, LED on	Optical coupler drived,LED on	
	Resistive	2A/point, 8A/COMx port	0.5A/point, 0.8A/4points, 0.3A/point (Y0,Y1)	
Max	Inductive	80VA	12W/DC24V, 7.2W/DC24V(Y0,Y1)	
iouu	General	100W	0.9W/DC24V, 0.9W/DC24V(Y0,Y1)	
Leak current Min load Response time		_	0. 1mA/DC30V	
		DC5V 2mA (reference)	_	
		About 10ms	Less than 0.2ms, 5µs(Y0,Y1)	

12.COM2 Port Setting

M8120	Reserved	D8120	Communication format (0 by default)
M8121	Sending waitting	D8121	Station number
M8122	Sending flag	D8122	Amount of data to be sent,unit: 0.1ms. Modbus send interval:0=5ms
M8123	Received flag	D8123	Amount of recieving data
M8124	Receiving	D8124	Begining character STX
M8125	Reserved	D8125	Ending character ETX
M8126	Reserved	D8126	Communication protocol (0 by default)
M8127	Reserved	D8127	The beginning address of the data
M8128	Reserved	D8128	Amount of sending data
M8129	Timeout judgement	D8129	Timeout setting,10(100ms) by default

COM2 Setting (D8126)

protocol	D8126	Mode	Communication formate	
Rs instruction	00H			
HMI monitoring protocol	01H			
MODBUS-RTU slave	02H		D D0400	
MODBUS-ASCII slave	03H	Half-duplex	By D8120	
Rs instruction	10H]		
MODBUS-RTU master	20H]		
MODBUS-ASCII master	30H]		

Communication format (D8120)

D'A U		Content			
Bit	Item	0	1		
ь0	Length	7 bits	8 bits		
b2 b1	Verification	00: None 01: Odd 11: Even			
b3	Stop bit	1 bit	2 bits		
b7 b6 b5 b4	Baudrate (bps)	0111:4800 1000:9600 1001:19200 1010:38400 1011:57600 1100:115200			

NOTE: the communication format is 9600. 1. 8 .None, so check the form, b7b6b5b4=1000, b3=0, b2b1=00, b0=1.D8120=81H

Example1: MODBUS RTU master.	
. M8002	Take effect after STOP to RUN
MOV H20 D81267	Result: PIC read address 100 in
Protocol Setting	slave device constantly after
	startup, send the command in Hex
Communication Format	over COM2
	01 03 00 64 00 01 C5 D5
Station No. and command	01:Station No.
MOV H64 D1]	03:MODBUS command code
Address	Read slave device address;
MOV H1 D21	00 64:The address of slave
Number of Address	device:D1,
MOV K200 D81297	
M8000 Fimeout	00 01:Number of address;D2
	C5 D5: CRC check,

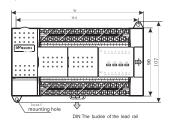
Example2: MODBUS RTU	J SLAVE.	
MOV MOV	H02 D8126] Protocol Setting H81 D8120] Communication Format H1 D8121] Station No. K200 D8129]	Take after STOP to RUN Slave device reply (in Hex): 01 03 02 51 00 88 D4 01:Station No.: 03:MODBUS command: 02:Reply 2 bytwaller 51 00:Value of address, value
MOV MOV	H5100 D100	of D100 85 D4:CRC check.

13. terminal

Pin	LX3v
L/N	AC 100V~240V
+24V/COM	output +24V
÷	Grounding
•	The empty post, never be connected
X0-Xn	External input terminal
Y0-Yn,COMn	Output terminal, Group number
S/S	support leakage input (connected to +24V) or source input (connected to COM).

14.Installation





Use the M4 screw to install the PLC. The distance and the location refer to the right figure,



Mode1	W(mm)	Q (kg)
LX3v-24M	136	0.47
LX3v-32M	174	0.68
LX3v-40M	174	0.68
LX3v-60M	220	0.90

15. The arrangement of terminal for Lx3v series

The type of relay and transistor have the same arrangement of terminal (*The bold line is the boundary of each group)

