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C-Lin 欣灵

使用手册
Products Instructions

CZA Series

Programmable Logic Controller

Thanks for using CZA series Programmable Logic Controllers, please read the manual before use.

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Content

PLC Content

Chapter I . Safety Precautions

Before conducting safety checks, operations, maintenance, or inspections on the programmable logic controller, please thoroughly read this manual and other related manuals to ensure proper use. Only proceed with use after fully understanding the operating methods, safety information, and all precautions.

1.1 Safety Precautions.

In this manual, safety precautions are categorized as 'DANGER' and 'CAUTION'.

DANGER	Incorrect operation may result in death or serious injury.
CAUTION	Incorrect operation may result in moderate injury to persons, minor injuries or damage to items.

1.2 Design Precautions

DANGER

To ensure the safe operation of the entire system in the even of an external power abnormality or the programmable logic controller malfunction, make sure to establish a safety circuit external to the PLC.

(1) Be sure to install an emergency brake circuit, a protection circuit, an interlock circuit for opposite operation such as a forward and reverse circuit, and an interlock circuit for positioning the upper and lower limits to prevent damage to the machine in the external circuit of the PLC.

(2) When the programmable controller CPU detects an abnormality such as a WDT error through the self-diagnostic function, all outputs are turned off. In addition, when an abnormal condition occurs in the input/output control section that cannot be detected by the programmable controller CPU, the output cannot be controlled. In this case, design external circuits and mechanisms to enable safe operation of the machine.

(3) Due to the failure of the relay or transistor of the output unit, it will be impossible to control the output to be ON or OFF. To enable safe operation of the machine, design external circuits and mechanisms for output signals associated with major accidents.

1.3 Installation Precautions

CAUTION

(1)Please use the product in accordance with the environmental conditions specified in Section 4.4 of the manual. Do not use the product in the following environments: areas with dust, oil smoke, conductive dust, corrosive gases, or flammable gases; areas exposed to high temperatures, condensation, or wind and rain; areas subject to vibration or shock. Electric shock, fire, or improper operation may also cause product damage.

(2) When processing screw holes and wiring, ensure that iron filings or wire fragments do not fall into the ventilation openings of the programmable controller, as this may cause fire, malfunction, or improper operation.

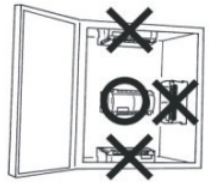
(3)The programmable controller's ventilation openings are equipped with dust covers. Please remove them after completing the work. Otherwise, it may cause fire, malfunction, and misop eration.

(4) Please insert the connecting cable, memory box, and display module accurately into the specified sockets.

(5) Poor contact may cause misoperation.

Notes:

(1) To prevent temperature rise, do not install at the bottom, top, or in a vertical direction. Be sure to install horizontally on the wall as shown in the figure on the right.



(2) Leave a space of 50mm or more between the main unit and other equipment or structures. Avoid high voltage lines, high voltage equipment, and power equipment as much as possible.

1.4 Wiring Precautions

The signal input and output lines of the programmable controller cannot be passed over the same cable.

In addition, signal input and output lines cannot be passed in the same conduit as other power and output lines, nor can they be bundled together.

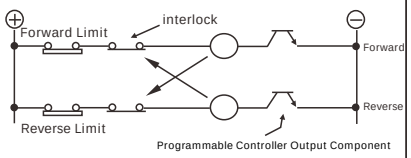
If the above precautions are followed, there is little or no noise problem even if the input/output wiring is 50-100 meters long. However, in general, for safety reasons, the wiring length should be less than 20 meters.

DANGER

(1) Installation, wiring and other operations must be carried out when the external power supply is completely disconnected. Otherwise, it may cause electric shock or product damage.

(2) After completing installation and wiring, ensure the terminal cover is securely installed before powering on the system to prevent electric shock.

DANGER



It is extremely dangerous if the forward and reverse contactors are engaged simultaneously. For such loads, in addition to setting interlocks in the internal program of the programmable controller, interlocks like those shown in the diagram must also be configured externally to the programmable controller.

CAUTION

Do not connect empty terminals to external wiring, as this may cause product damage.

CAUTION

(1) Please wire the DC power supply to the dedicated terminals as specified in this manual. Connecting the DC power supply to the DC input/output terminals or DC power terminals may damage the programmable controller.

(2) When using a DC-powered PLC, ground the terminal of the basic unit according to the third grounding method. However, do not share the grounding with high-voltage systems.

(3) The programmable controller will continue to operate even if there is an instantaneous power failure of less than 10ms. In the event of a long power failure or low voltage, the programmable controller stops working and the output becomes OFF, but will automatically restart operation once the power supply is restored (when the RUN input is ON).

1.5 Power on and Maintenance.

DANGER

(1) Do not touch the terminals while they are energized, as this may cause electric shock or misoperation.
(2) Please clean and disassemble the terminals after the power is turned off. Execution while the power is energized may cause electric shock.
(3) Read the manual thoroughly and make sure that it is safe to operate the machine before changing the program, forcing the output, RUN/STOP, etc. during operation. Incorrect operation may result in damage to the machine and cause accidents.

Notes:

(1) Please do not disassemble or remodel, as this may cause malfunction, ma lfunction, or fire.
※ Please contact our marketing department regarding repairs.

(2) Please carry out loading and unloading of connecting cables such as extension cables after the power has been turned off, otherwise malfunctions and malfunctions may occur.

Chapter II. Manual Overview

2.1 Composition

Contents of this manual: This manual covers wiring considerations for CZA series programmable controllers, CZA series hardware specifications, power supply wiring and specifications, expansion specifications, serial port information specifications, operation and debugging.

2.2 Scope of application

This is the manual for the CZA series programmable controller products, which c overs the following product information:

2.2.1 CZA series.

Products	Points	Model	Specifi cation	Impulse	485	Voltage	Extended functionality
CZA	8 in 6 out	CZA1-0806MT-D	transistors	2 pulse	1 pulse	DC 24V	–
		CZA1-0806MR-D	transistors	–			
	12 in 10 out	CZA1-1210MT-D	Relay	2 pulse			
		CZA1-1210MR-D	transistors	–			
		CZA1-1210MT-D-2AD2DA	transistors	2 pulse			
		CZA1-1210MR-D-1AD2DA	Relay	–			

Chapter III. Product Overview

3.1 Product Characteristics

3.1.1 Model characteristics

-I/O points: 14 points, 22 points
-Input type: NPN
-Output type: transistor/relay
-Power supply type: DC24V

Series	Description
CZA (Basic)	Includes 14 and 22 point. Fully functional, supports 2-axis high-speed pulse output and high-speed counting.

3.1.2 Basic Functions

- Multiple communication ports
The basic unit has two communication ports, supporting RS232 and RS485 of standard MODBUS protocol, which can be connected to frequency converter, servo, touch screen, etc.

- Large soft-ware capacity
Up to 1024 points of process S, up to 1536 auxiliary relays M, supports up to 2000 D registers, etc.

- Multi-mode Programming
Support ladder programming, command language programming and C language operation programming.

- Enrichment of instructions
n addition to basic instructions, it also has high-speed counting, interrupt, PID operation, high-speed counting and high-speed pulse output.

- Real-time clock
PLC with real-time clock function for time control.

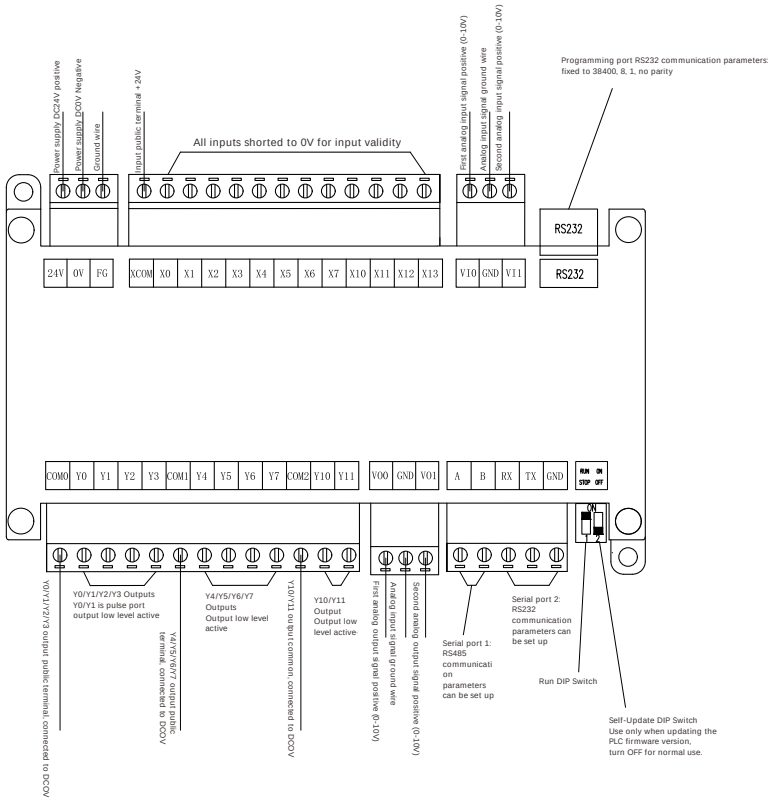
3.2 Model Description

CZA1-1210T-D Additional functions

① ② ③ ④

① Input and output points	0806: 8 inputs/6 outputs
	1210: 12 inputs/10 outputs
② Output type	R: relay output
	T: Transistor output, 2 pulse outputs
③ Power supply	A: Power supply AC220V
	D: Power supply DC24V
④ Additional Functions	Omitted as empty
	2AD2DA: Analog

Chapter IV. Hardware Specifications


Power supply DC24V positive
Power supply 0V Negative
Ground wire
Input public terminal +24V
All inputs shorted to 0V for input validity
First analog input signal positive (0-10V)
Analog input signal ground wire
Second analog input signal positive (0-10V)
Programming port RS232 communication parameters: fixed to 38400, 8, 1, no parity
RS232
RS232
24V 0V FG
XCOM X0 X1 X2 X3 X4 X5 X6 X7 X10 X11 X12 X13
V10 GND V11
COM0 Y0 Y1 Y2 Y3 COM1 Y4 Y5 Y6 Y7 COM2 Y10 Y11
V00 GND V01
A B RX TX GND
RUN ON
STOP OFF
ON
Y0/Y1/Y2/Y3 output pulse terminal connected to 0CCV
Y0/Y1/Y2/Y3 Outputs
Y0/Y1 is pulse port
output low level active
Y4/Y5/Y6/Y7 output pulse terminal connected to 0CCV
Y4/Y5/Y6/Y7
Outputs
Output low level
active
Y10/Y11 output common connected to 0CCV
Y10/Y11
Output
Output low
level active
First analog output signal positive (0-10V)
Analog input signal ground wire
Second analog output signal positive (0-10V)
Serial port 1:
RS485
communicati
on
parameters
can be set up
Serial port 2:
RS232
communication
parameters can
be set up
Run DIP Switch
Self-Update DIP Switch
Use only when updating the
PLC firmware version,
turn OFF for normal use.

4.3 Power Specifications

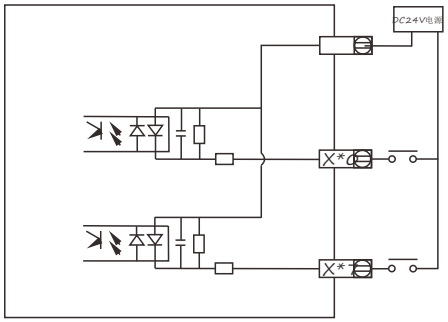
Specification	Mode
	CZA1
Working Voltage	DC24V
Permissible range of supply voltage	DC22-28V
Allowable Instantaneous Outage Time	Continues to operate for transient power outages of 10ms or less
Power Fuse	30V 750mA
Power consumption	30W
DC24V Supply Voltage	External power supply 200mA for 16 points PLC, 400mA for 24 points and above

4.4 Environmental Requirements

Specification	Mode	
Environmental temperature	0～55℃ and -25～75℃ (storing)	
Relative humidity	0～95%RH (no condensation)	
Voltage resistance	AC1.5KV 1m	Between each terminal and ground terminal
	AC500V 1m	
Insulation resistance	DC500V with a megohmmeter to measure more than 5MΩ	
Ground terminal	Class D grounding (grounding resistance: 100Ω or less) <Common grounding with strong electric power is not allowed>	
Operating environment	Non-corrosive, flammable gas, conductive dust (dust) is not serious occasions	

Chapter V. Input Specifications and Wiring Methods

5.1 Input Specifications

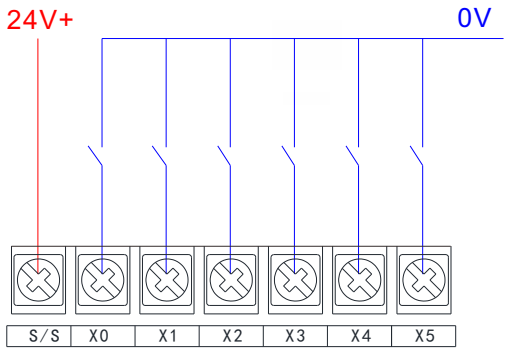
Speicification	DC Power Supply, DC Input	
Model	CZA Series Mainframe	
Input form	NPN	
Input Signal Voltage	AC power supply type: 10% of DC24V DC power supply type: 16.8 to 28.8V	
Input Impedance	X	3.3KΩ
ON input sense current	X	above 4.5mA
OFF input sense current	below 1.5m	
Input Response Time	about 10ms	
Input signal form	No voltage contact input Drain input: NPN open-collector transistor	
Input circuit isolation	Optocoupler Isolation	
Display of input action	LEDs on the panel light up when driven by optocouplers	
Input circuit structure		

5.2 Input and output Wiring Method

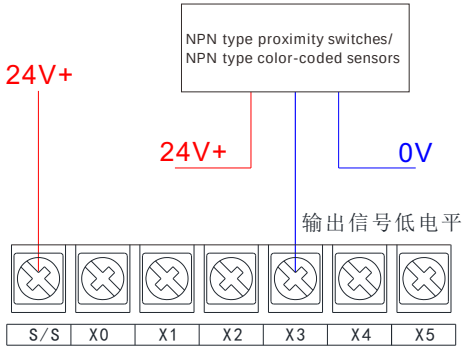
5.2.1 NPNI input Wiring Method

S/S terminal is connected to DC+24V, use 0V signal to short X terminal input.

(1) Switching wiring method



(2) Proximity switch/color-coded sensor



5.2.2 NPN Output Wiring Method

The CZA series PLC supports a maximum of 2 pulse outputs.

The pulse output starts from terminal Y0, e.g. the pulse output of CZA1-1 210MT-D is terminal Y0, Y1.