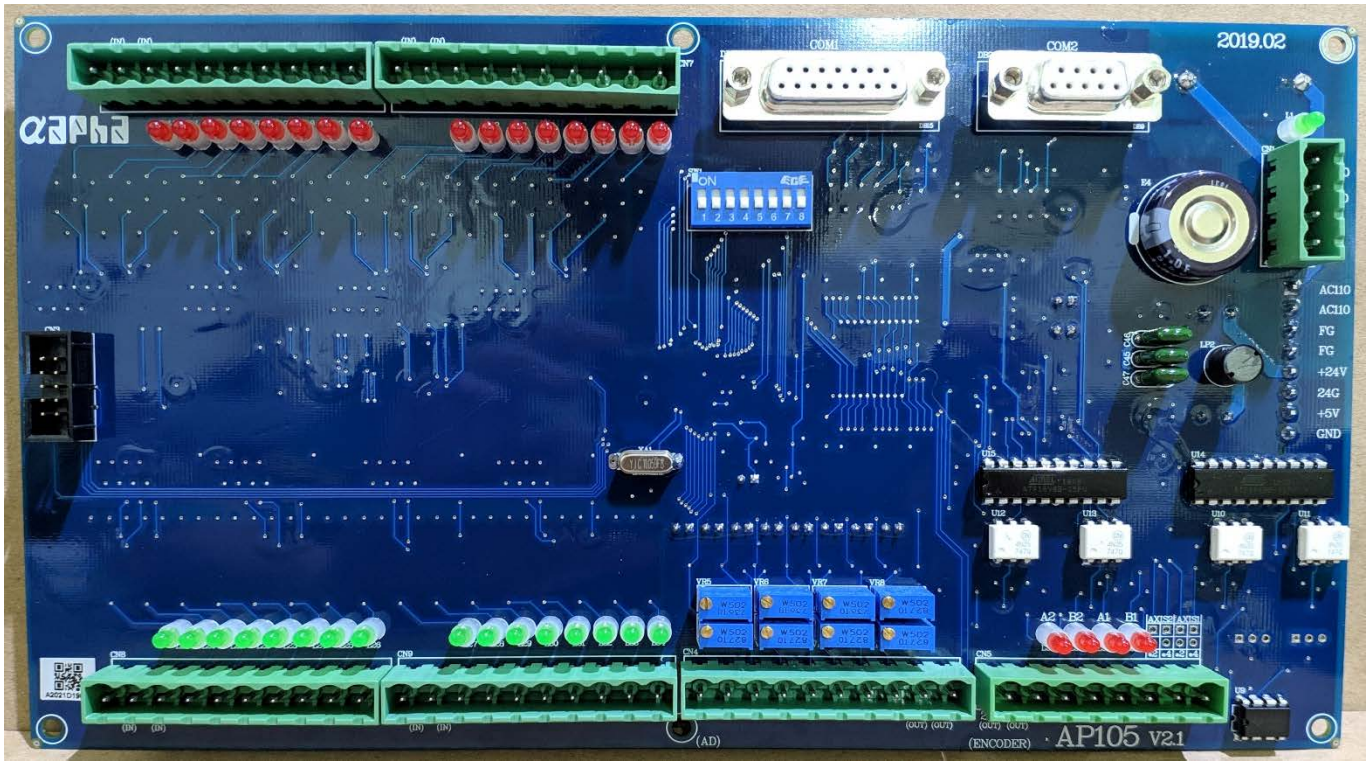
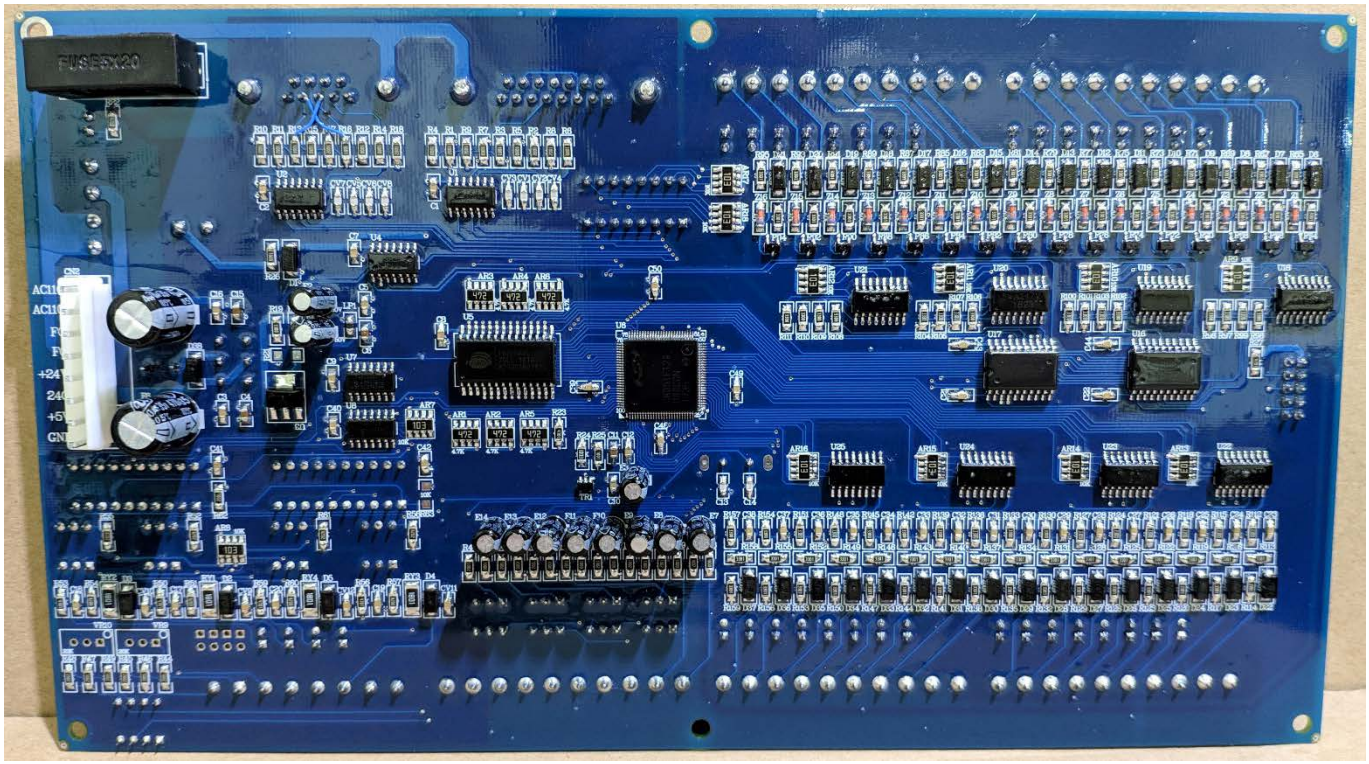
AP105
Hardware Description

I. Physical Photos

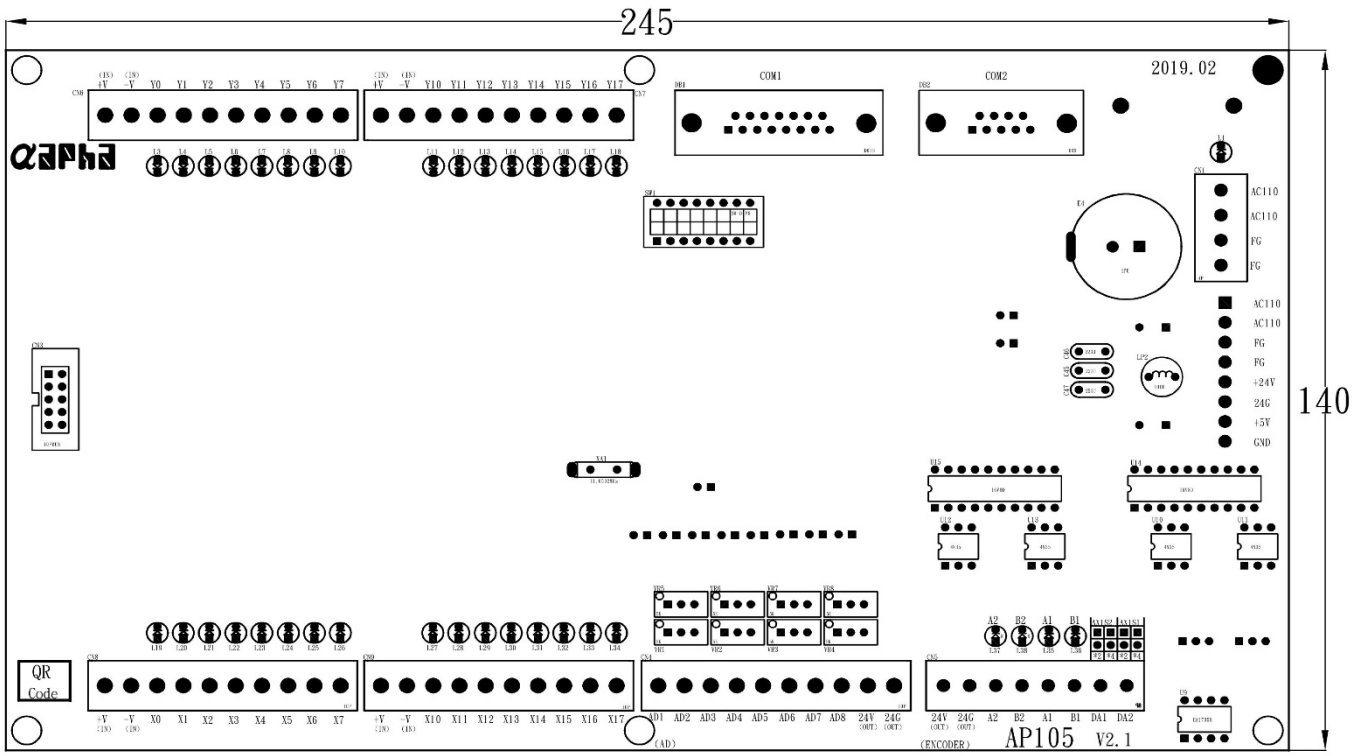
1. AP105 Physical Photos

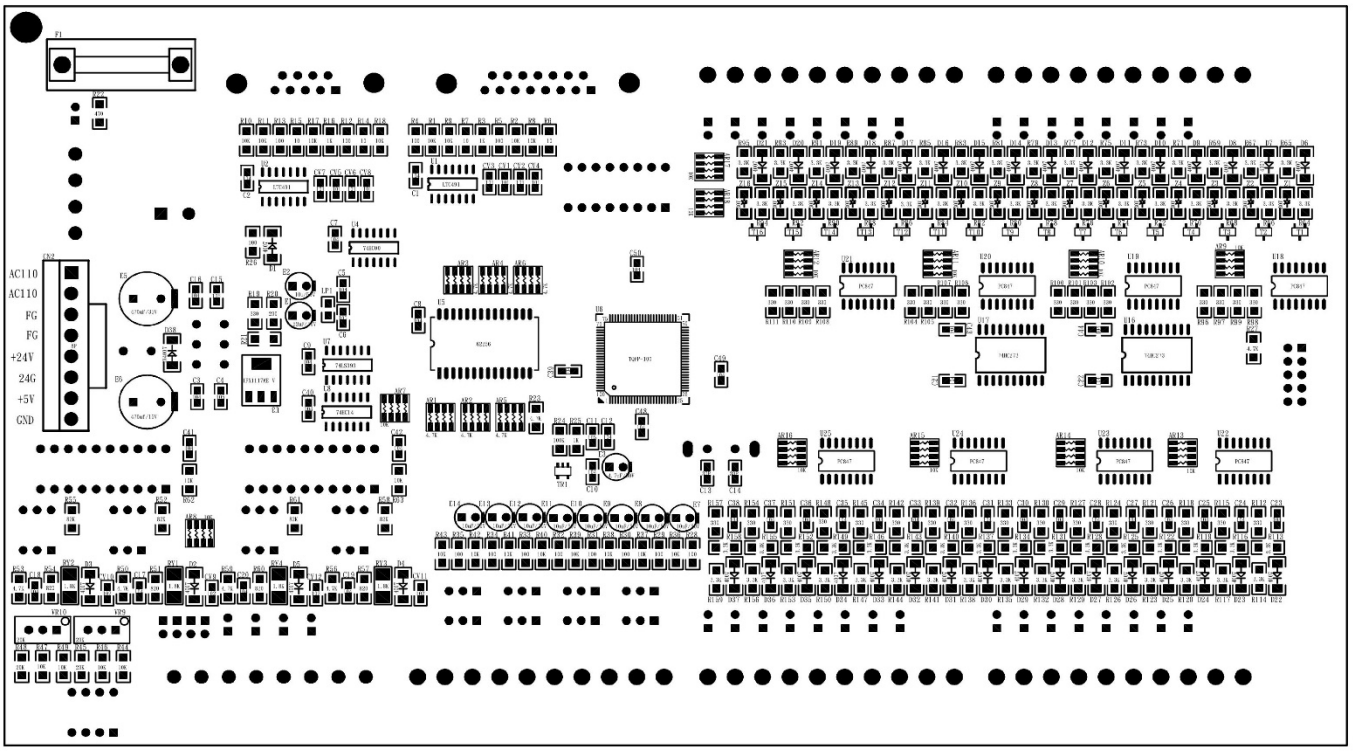




I. Physical Photos

2. AP105 Dimension Diagram

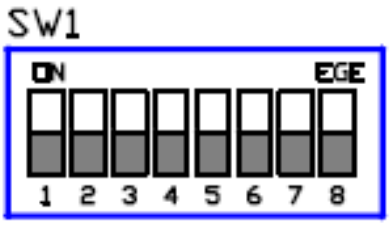




II. Product Specifications

Item	Specification
Input Power	AC100V~230V
Current Consumption	300mA
Operating Temperature	0~60°C
Storage Temperature	-20~+70°C
FLASH ROM	128Kbytes
SRAM	32Kbytes
Hardware Version	V2.1
Product Part Number	AP105 Controller Set: HAEAP10500

III. DIP Switch Description



1. Switch pushed up is ON, represented as 1 in the table.

2. Switch pushed down is OFF, represented as 0 in the table.

3. Pin 1: Not used in the standard system; reserved for the fire control system to select curve calculation method.

4. ON: Old version
   OFF: V3 version

5. Pins 2 to 4: Used for “Sub-unit” setting; configuration as shown in the table below.

PIN / Sub No.	2	3	4
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

III. DIP Switch Description

6. Pins 5 to 8 – COM2 and COM1 Baud Rate Setting

	COM2		COM1	
PIN / Baud Rate	5	6	7	8
9600	0	0	0	0
19200	0	1	0	1
38400	1	0	1	0
115200	1	1	1	1

IV. VR1~VR8 Function Description

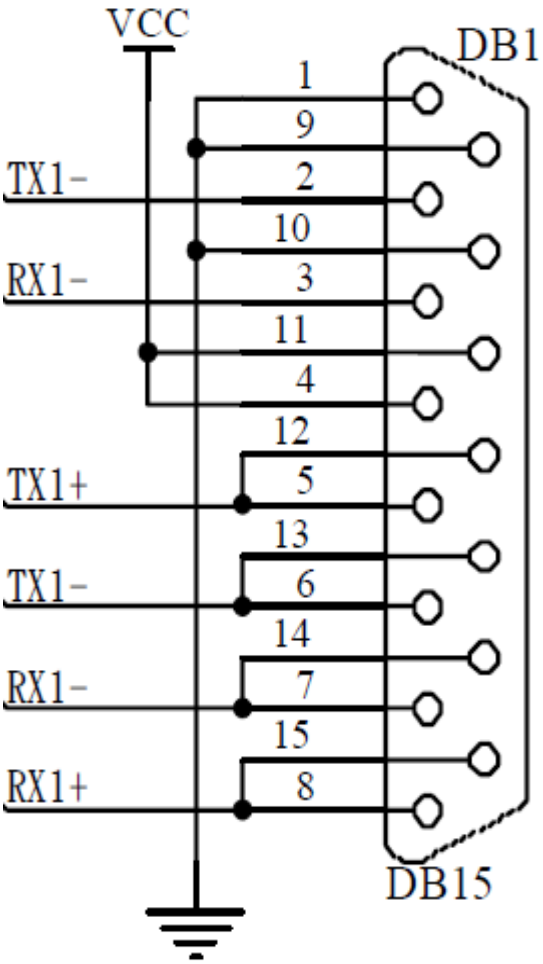
The AP105 has a total of 8 input axes, each axis is paired with a VR (variable resistor) to adjust the voltage.

- Clockwise rotation: Increases the ratio
- Counterclockwise rotation: Decreases the ratioAP105

Variable Resistor	Zero Adjustment
VR1	Adjust input voltage for Axis 1
VR2	Adjust input voltage for Axis 2
VR3	Adjust input voltage for Axis 3
VR4	Adjust input voltage for Axis 4
VR5	Adjust input voltage for Axis 5
VR6	Adjust input voltage for Axis 6
VR7	Adjust input voltage for Axis 7
VR8	Adjust input voltage for Axis 8

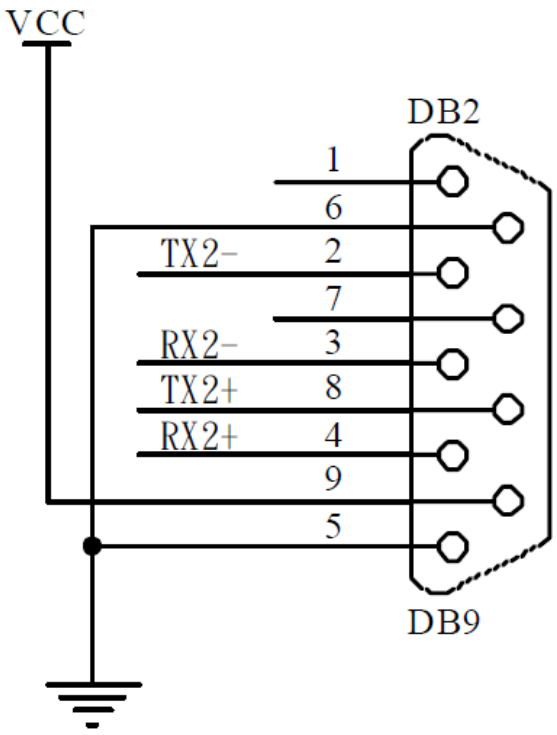
V. CNT Pin Function Description

1. DB2 D-sub 9P Pin Function Description

PIN	Function	Pin Layout Diagram
1	GND	
2	TX1+	
3	RX1-	
4	VCC	
5	TX1+	
6	TX1-	
7	RX1-	
8	RX1+	
9	GND	
10	GND	
11	VCC	
12	TX1+	
13	TX1-	
14	RX1-	
15	TX1+	

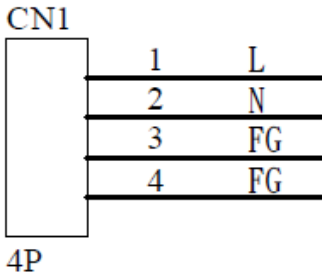
V. CNT Pin Function Description

2. DB2 D-sub 9P Pin Function Description

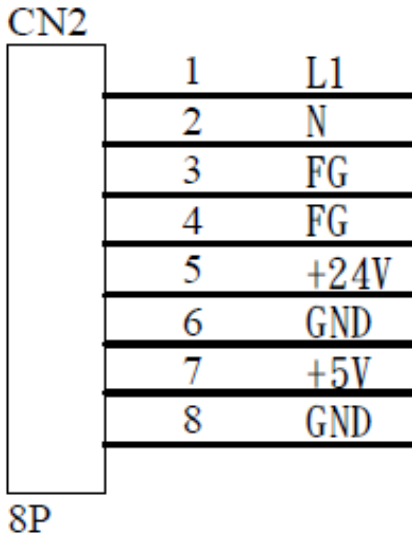
PIN	Function	Pin Layout Diagram
1	NC	
2	TX21	
3	RX2-	
4	RX2+	
5	GND	
6	GND	
7	NC	
8	TX2+	
9	VCC	

V. CNT Pin Function Description

3. CN1 4P Pin Function Description

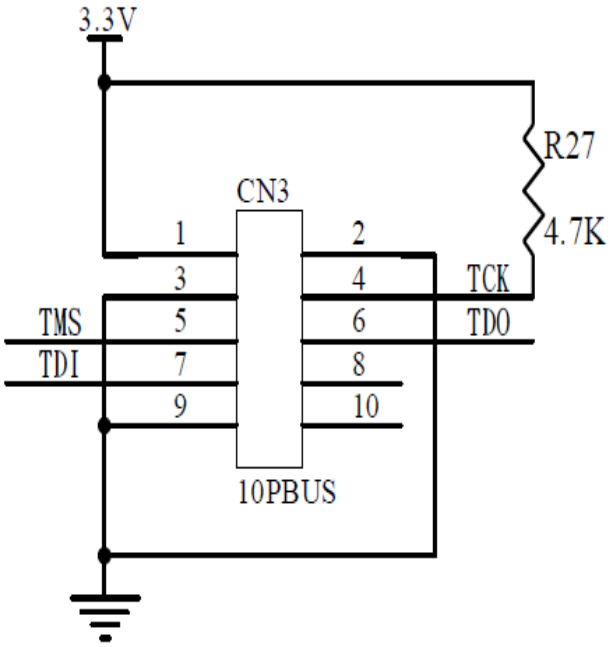
PIN	Function	Pin Layout Diagram
1	L	
2	N	
3	FG	
4	FG	

4. CN2 VH-8P Pin Function Description

PIN	Function	Pin Layout Diagram
1	L1	
2	N	
3	FG	
4	FG	
5	+24V	
6	GND	
7	+5V	
8	GND	

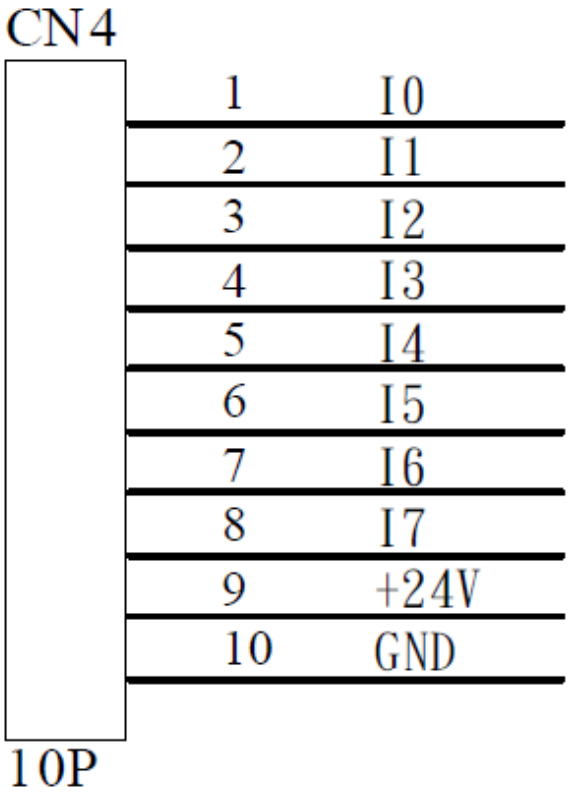
V. CNT Pin Function Description

5. CN3 10P BUS Pin Function Description

PIN	Function	Pin Layout Diagram
1	3.3V	
2	GND	
3	GND	
4	TCK	
5	TMS	
6	TDO	
7	TDI	
8	NC	
9	GND	
10	NC	

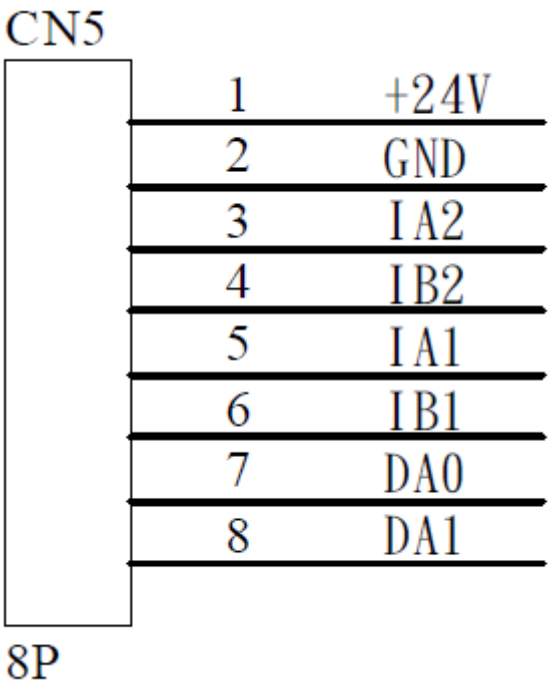
V. CNT Pin Function Description

6. CN4 10P Pin Function Description

PIN	Function	Pin Layout Diagram
1	I0	
2	I1	
3	I2	
4	I3	
5	I4	
6	I5	
7	I6	
8	I7	
9	+24V	
10	GND	

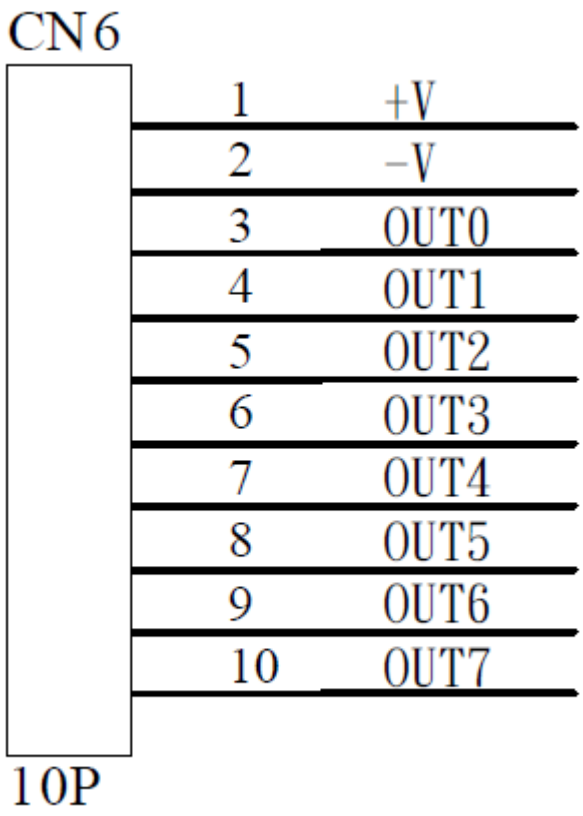
V. CNT Pin Function Description

7. CN5 8P Pin Function Description

PIN	Function	Pin Layout Diagram
1	+24V	
2	GND	
3	IA2	
4	IB2	
5	IA1	
6	IB1	
7	DA0	
8	DA1	

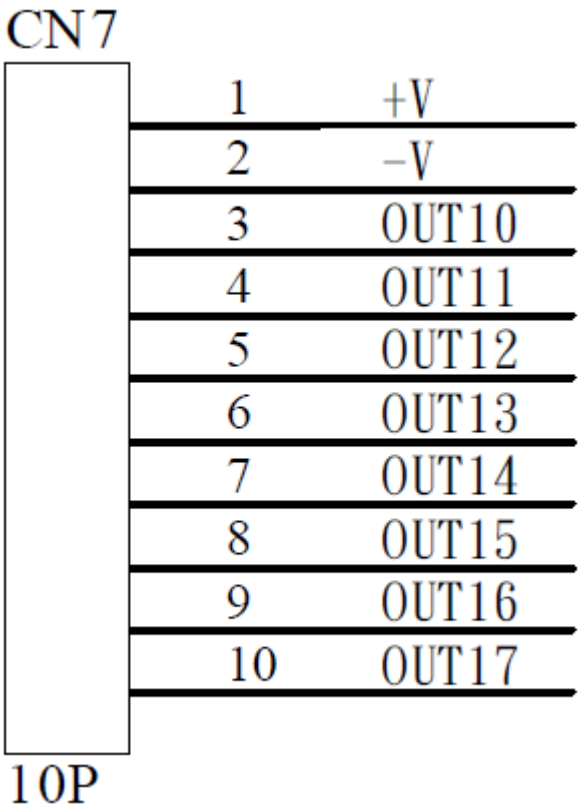
V. CNT Pin Function Description

8. CN6 10P Pin Function Description

PIN	Function	Pin Layout Diagram
1	+V	
2	-V	
3	OUT0	
4	OUT1	
5	OUT2	
6	OUT3	
7	OUT4	
8	OUT5	
9	OUT6	
10	OUT7	

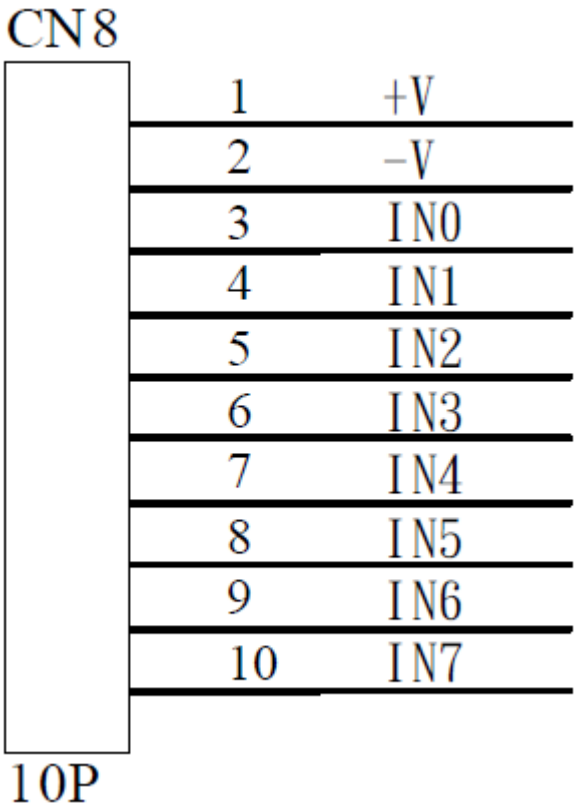
V. CNT Pin Function Description

9. CN7 10P Pin Function Description

PIN	Function	Pin Layout Diagram
1	+V	
2	-V	
3	OUT10	
4	OUT11	
5	OUT12	
6	OUT13	
7	OUT14	
8	OUT15	
9	OUT16	
10	OUT17	

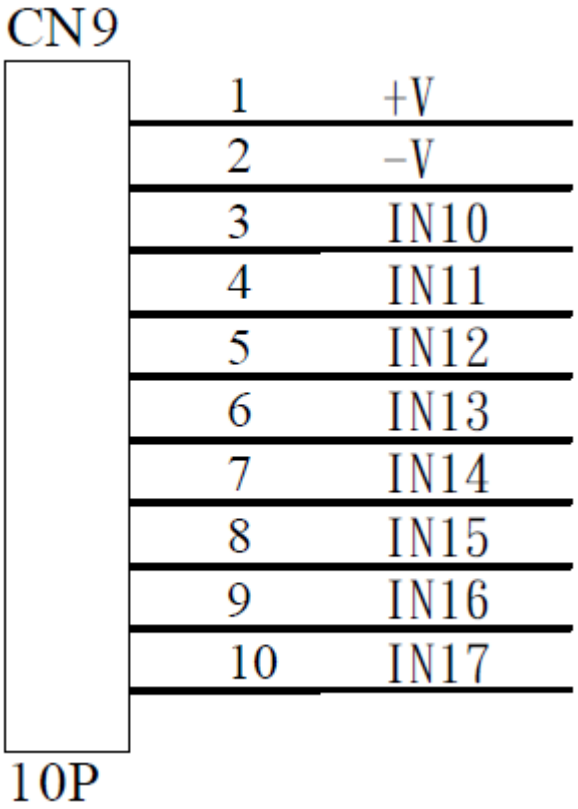
V. CNT Pin Function Description

10. CN8 10P Pin Function Description

PIN	Function	Pin Layout Diagram
1	+V	
2	-V	
3	IN0	
4	IN1	
5	IN2	
6	IN3	
7	IN4	
8	IN5	
9	IN6	
10	IN7	

V. CNT Pin Function Description

11. CN9 10P Pin Function Description

PIN	Function	Pin Layout Diagram
1	+V	
2	-V	
3	IN10	
4	IN11	
5	IN12	
6	IN13	
7	IN14	
8	IN15	
9	IN16	
10	IN17	

VI. JUMP Function Description

JUMP	Function		
AXIS1	Select Encoder Input Pulse Rate for Axis 1		*1
			*2
			*4
AXIS2	Select Encoder Input Pulse Rate for Axis 2		*1
			*2
			*4

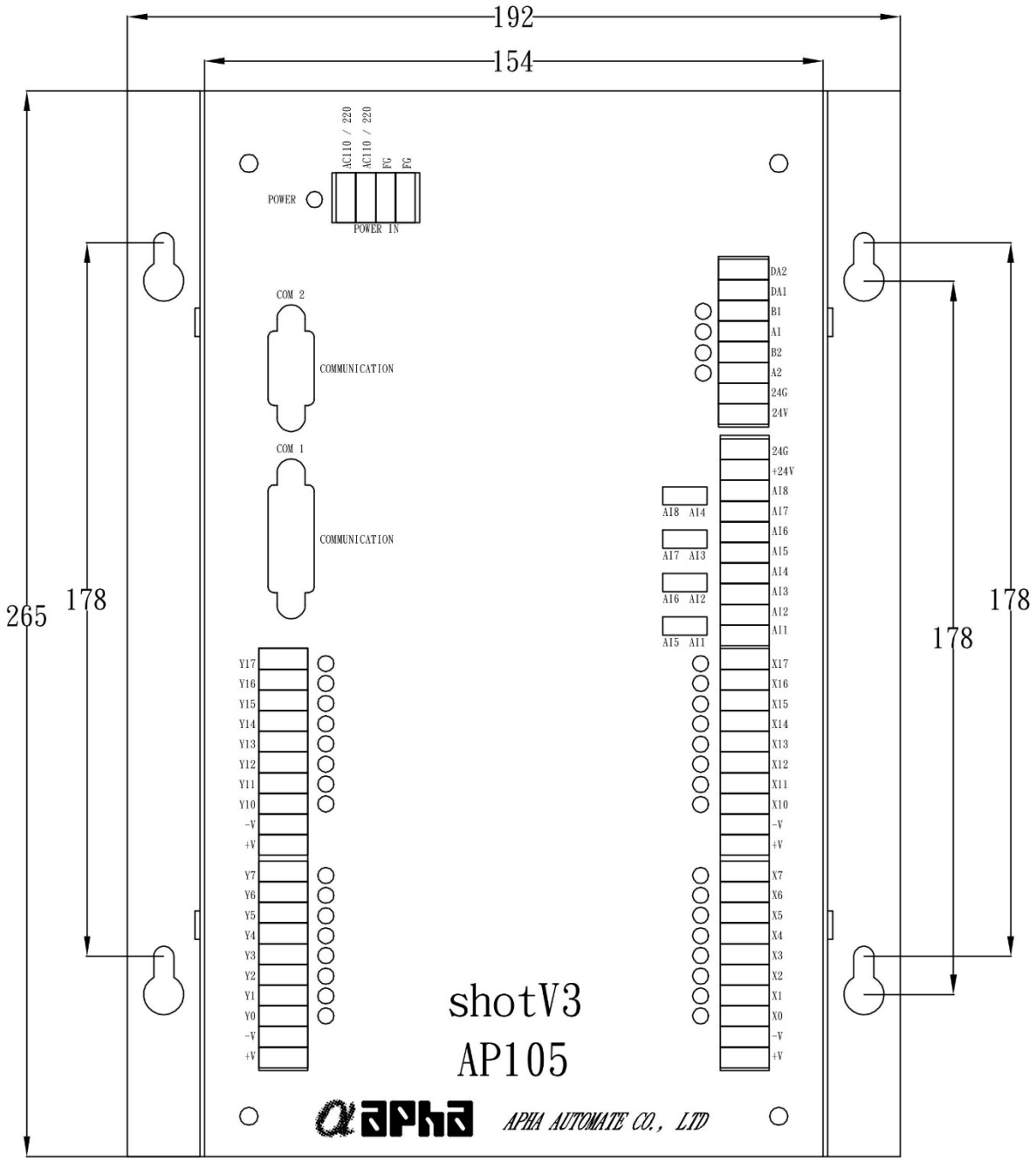
VII. Register Description

Registers for High-Speed Counters (each group occupies 2 WORDs)

Register	Description	Note
D8000~D8001	Analog Output – 2 axes, 1 WORD per axis 0–4000 converted to 0–10V output	For PLC Operations
D8032~D8039	Analog Input – 8 axes, 1 WORD per axis 0–10V input, converted to 0–4095	For PLC Operations
D8076	AD8 (1–8 axes)	For Parameter Settings
D8080	DA2 (1–2 axes)	For Parameter Settings
D8084	High-Speed Counter – Axis 1 Read/Write	For Zero Reset
D8086	High-Speed Counter – Axis 2 Read/Write	For Zero Reset
D8100	High-Speed Counter – Axis 1 Read-Only	For PLC Operations
D8102	High-Speed Counter – Axis 2 Read-Only	For PLC Operations

VIII. Dimensions & Drawing

1. Designed with a dedicated enclosure for easy installation and use



VIII. Dimensions & Drawing

2. Assembled Product Drawing