1. AC300 IO Introduction to expansion card

AC300 and ac310 series frequency converters have powerful expansion functions. Ac300io1 expansion card is a terminal expansion card suitable for AC300 and ac310 series frequency converters of our company. It is installed in the ex-a expansion port of the machine. Enrich the digital input, output, analog input and output functions of frequency converter to meet various application requirements in specific occasions.

2. AC300 IO card order model

Product order model：AC300IO1

3. AC300 IO ： how to use the expansion card

3.1 Product technical parameters

category	**Characteristics of digital input signal**			
	Signal name	**Response frequency range**	**Input impedance**	**Effective level range**
input signal	X6，X7，X8	0～5KHz	4.4KΩ	High level：10～30V Low level：0～5V
	X10	0～50KHz	1.5 KΩ	High level：10～30V Low level：0～5V
Select plc2 to connect to 24 V or com through jumper switch S7 to support NPN and PNP transistor signal number input				

category	**Characteristics of digital output signal**		
	Signal name	**Output mode**	**maximum output**
input signal	Y2	NPN Transistor open collector output	DC24V/50mA

	TA2，TB2，TC2	Relay normally open normally closed output	3A/250VAC 3A/30VDC

PK + / PK - temperature sensor signal				
Signal name	**Thermocouple category**	**How to choose**	**Input mode**	**Detection temperature range**
PK+/PK-	PT100	Dial switch S1 selection	Differential two wire input	0℃～220℃
	KTY84	Setting parameter selection switch S1		
	PT1000			

Note: Please refer to section 3.3 and 3.6 for the specific selection method of thermocouple type

category	**AO2 analog output signal characteristics (selected by J2 jumper switch)**		
	Signal name	**Output capacity**	**remarks**
AO2	AO2-V(voltage output)	DC 0-10V output	Maximum output 2mA
	AO2-I(current output)	DC 0-20mA or 4-20mA output	

3.2 Function description of signal terminal

terminal definition	Terminal name	explain
Digital quantity Input terminal	X6	Digital switch input terminal and com constitute a loop
	X7	Digital switch input terminal and com constitute a loop
	X8	Digital switch input terminal and com constitute a loop
	X10	The digital switch input terminal forms the loop with

		com, and the digital switch input terminal forms the loop with com (PUL high speed pulse input, maximum frequency: 50KHz)
Common terminal	COM	Digital switch input and output reference terminal
	PLC2	Plc2 connection common terminal (24 V or com can be selected through jumper switch S7)
Digital quantity Output terminal	Y2	Digital switch output terminal, maximum output DC24V / 50mA
	TA2	Relay output terminal
	TB2	Relay output terminal
	TC2	Relay output terminal
Motor temperature sensor Input terminal	PK+	PT100 or kty84 / PT1000 temperature sensor input+
	PK-	PT100 or kty84 / PT1000 temperature sensor input-

3.3 Function description of selection terminal

Refer to the following table for relevant descriptions of jumper switch:

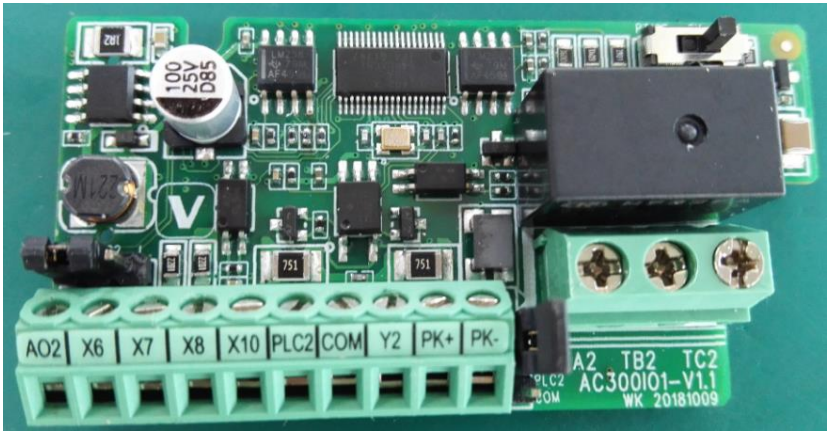
Switch definition	Gear name	explain
S7	+24V	+24 V external power supply, maximum output 100 mA current
	PLC2	PLC terminal, can be connected to + 24 V or com
	COM	+24 V power supply reference ground, output collector open circuit signal reference ground
S1	PK	PK and PT100 are short circuited, and PT100 temperature sensor type is selected; PK and kty are short circuited, and kty84 / PT1000 temperature sensor type is selected (see section 3.6 for kty84 / PT1000 selection);
	PT100	PT100 temperature sensor input
	KTY	Kty84 / PT1000 temperature sensor input
J2	AO2	AO2 is used as analog output signal
	V	The jumper switch selects V and selects the output voltage signal
	I	Jumper switch select I, select current signal

Note: set S7 factory setting to above, that is, plc2 is connected to + 24 V gear

Set S1 factory setting to PT100 and select PT100 temperature sensor type input

J2 factory settings set to V gear, default voltage output

3.4 Product diagram



3.5 Wiring precautions

The terminal signal line of AC300 expansion card should be separated from the power line to avoid mutual interference between strong and weak current signals.

3.6 Related parameter setting

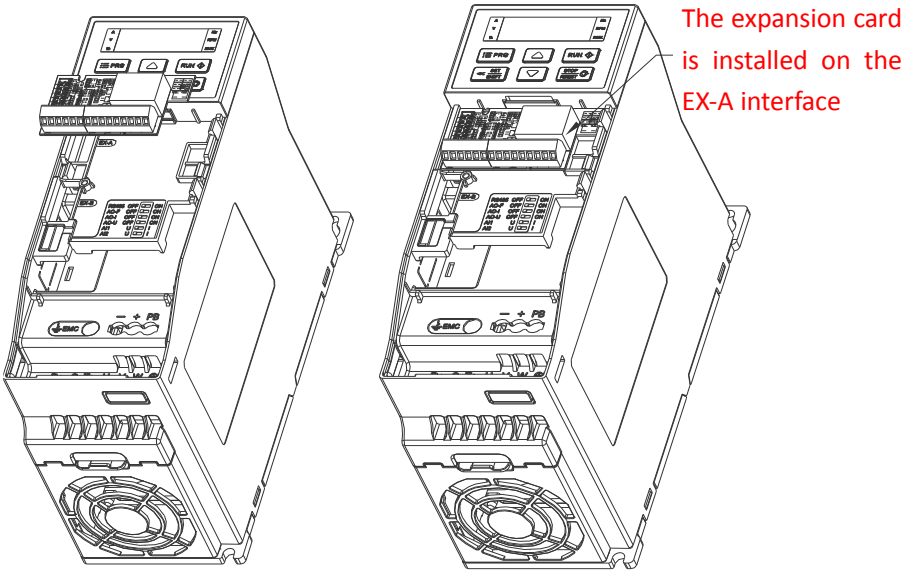
According to the actual use of frequency converter related parameters. Specifically, the following parameters are involved:

AC300 function code number	**Ac310 function code number**	**Function code name**
F02.05、F02.06、F02.07、F02.09	F05.05、F05.06、F05.07、F05.09	Multi function input terminals 6,7,8,10
F02.27	F05.30	Pul port signal source
F02.45	F06.23	Extended output Y1 terminal
F02.46	F06.24	Extended relay output 2

F10.29	F10.26	Motor overheat protection selection (extension) (kty84 / PT1000 selection)
F10.30	F10.27	Motor overheat alarm level (Extended)
F10.31	F10.28	Motor overheat warning level (Extended)
F13.16	F12.50	Processing of communication disconnection of expansion port

4. Installation and size

4.1 installation diagram



4.2 Board size drawing