+CTL39T Wiring guide for multi-function frequency division encoder card

1. Only support 12V power supply differential encoder, please use shielded cable, support A-phase and B-phase disconnection detection.
2. Wiring definition of control system (numerical control system, PLC, etc.):

When using the given terminal PA±/PB±, please refer to the jumper mode in Figure 2 to select the given mode.

If it is given by differential pulse, connect PA+/PA-, PB+/PB-, 0V to COM, which is mostly used in CNC systems, etc., as shown in Figure 4.
If using NPN drain pulse setting, use the internal power supply to connect to PA-/PB- and 0V to COM. It is mostly used in Mitsubishi, Delta and other Japanese and Taiwanese PLCs, as shown in Figure 5.
If using NPN leakage pulse setting, use external power supply, then connect PA-/PB-, PA+/PB+ connect 24V, and remove J12, J13 jumpers, it is mostly used in Mitsubishi, Delta and other Japanese and Taiwanese PLCs, as shown in Figure 6. .

If PNP source type pulse setting is used, then connect to PA+/PB+, and PA-/PB- connects to 0V of the external system. It is mostly used in Siemens and other European PLCs, etc., as shown in Figure 7.
If using differential pulse frequency division output, connect to AO+/AO-, BO+/BO-, ZO+/ZO-, and 0V to GND, which is mostly used in numerical control systems, etc., as shown in Figure 8.
If using open collector (NPN drain type) pulse frequency division output, then connect AO, BO, ZO, 0V to COM, and it is mostly used in PLC, etc., as shown in Figure 9.

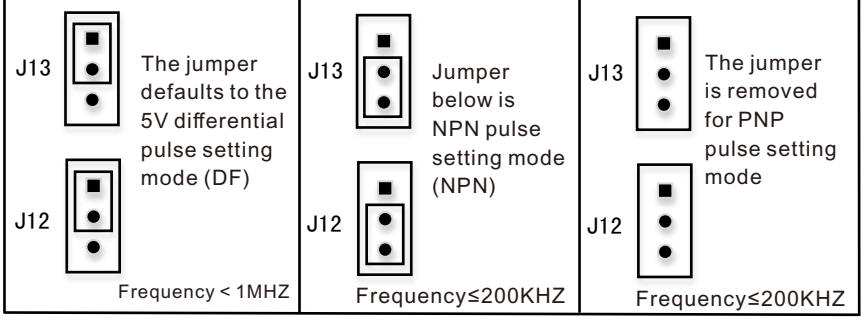
Please use shielded wire for all cables

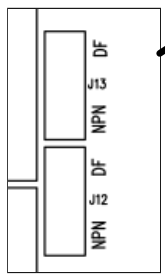
PG card port	
port name	Description
A+	12V encoder differential signal input Frequency < 1MHZ
A-	
B+	
B-	
Z+	
Z-	
VCC(+5V)	
COM(0V)	
PE	

PG card port	
port name	Description
AO+	5V differential signal frequency output (See parameter group 61)
AO−	
BO+	
BO−	
ZO+	
ZO−	
GND(0V)	
AO	Collector signal frequency division output
BO	
ZO	
COM(0V)	
PA+	Differential/NPN/PNP signal given input
PA−	
PB+	
PB−	

figure1 +CTL39T port definition

When the docking control system selects the given mode, jumpers J12 and J13 must be used at the same time, PA±, PB± are pulse setting





PA±/PB± setting mode

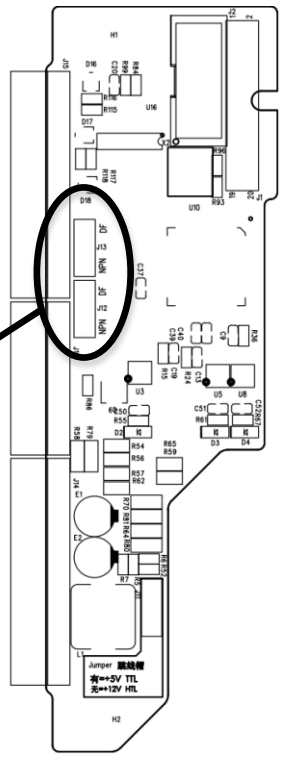


figure2 **+CTL39T** Control system setting mode jumper selection definition

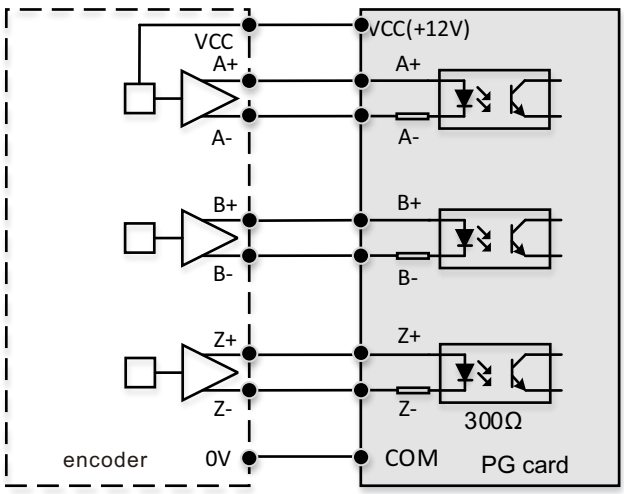


figure3 Differential encoder wiring diagram

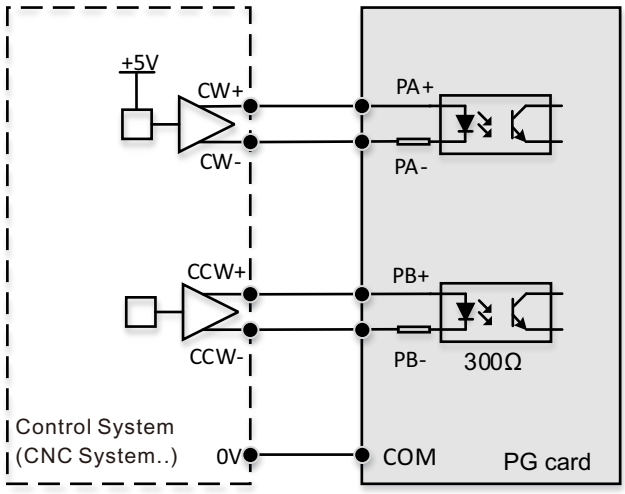


figure4 Differential pulse given wiring diagram

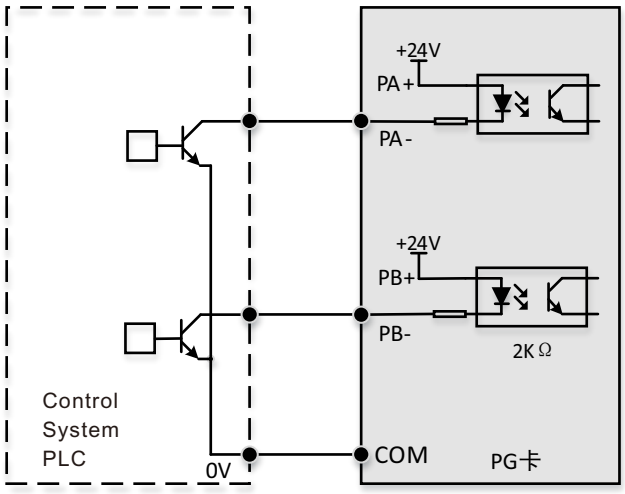


Figure 5 Pulse reference internal power supply wiring diagram

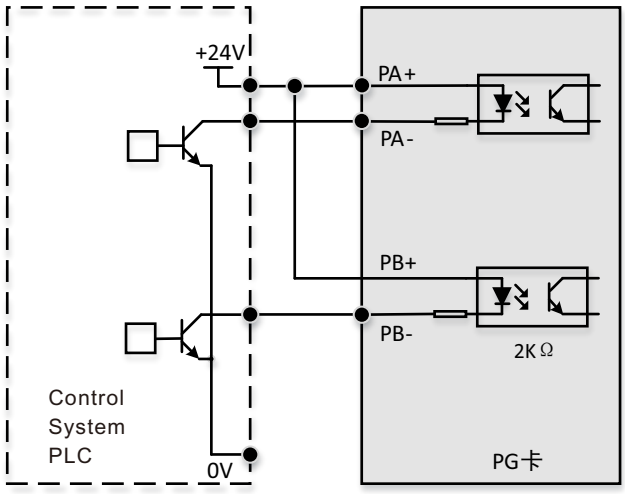


Figure 6 Wiring diagram of NPN pulse given external power supply

Note: When using an external power supply, please refer to the PNP setting mode to remove the J12 and J13 jumpers

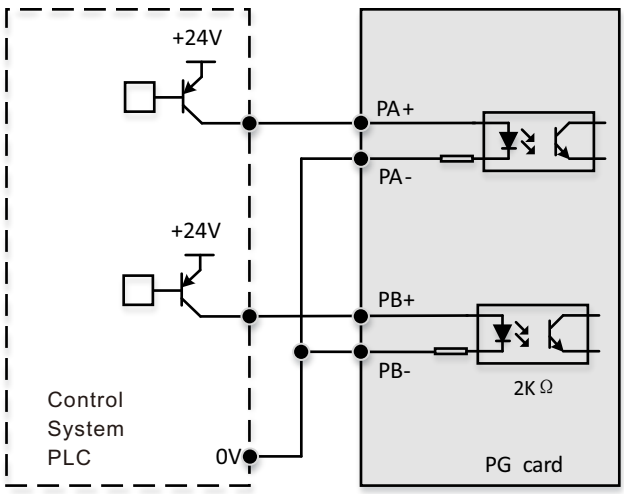


Figure 7 Pulse reference wiring diagram

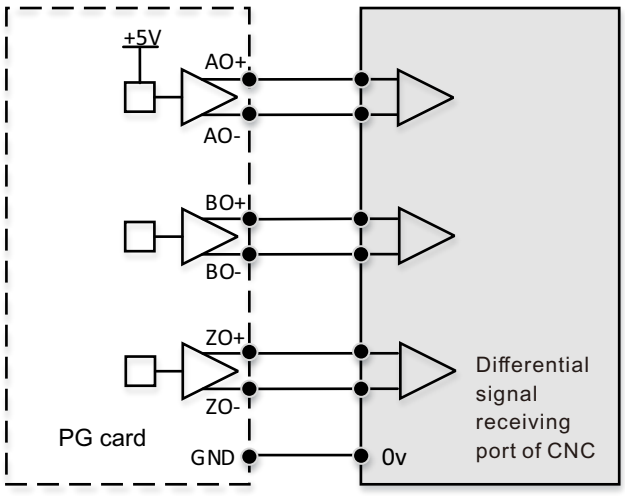


Figure 8 differential pulse frequency division output wiring diagram

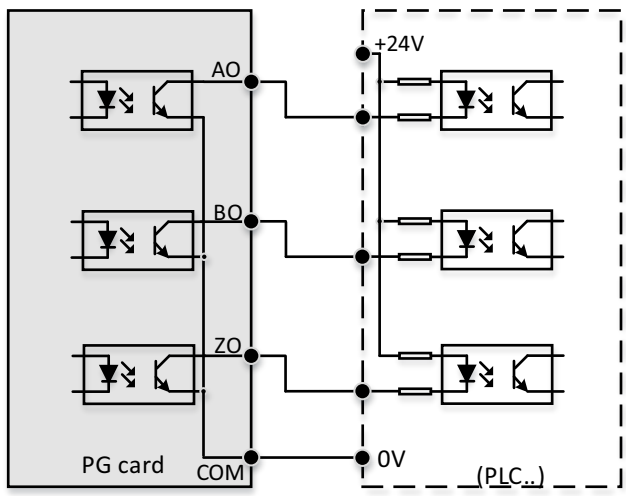


Figure 9 NPN Pulse frequency division output wiring diagram