SD710 Pulse Commissioning Guidance Document

Note: 1) We have two types of wiring: high speed pulse and low speed pulse

Pulse mode		Maximum frequency (PPS)	Minimum pulse width (μs)
Low speed	Differential	500k	1
	Collector open circuit	200k	2.5
High-speed differential		4M	0.125

Signal Name		Pin number	Function	
Position command	PULSE+ PULSE- SIGN+ SING-	41 43 37 39	Low-speed pulse command input method. ① Differential drive input ② Open collector input	Input pulse pattern ① Direction + pulse ② A and B phase quadrature ③ CW/CCW pulse
	HPULSE+ HPULSE-	38 36	High-speed input pulse command	
	HSIG-+ HSIGN-	42 40	High-speed position command symbols	
	PULLHI	35	External power input interface for command pulses	
	GND	29	Signal Ground	

2) Please connect the GND of the upper unit and the GND of the servo to reduce the noise interference

3) Determine whether your controller outputs NPN, PNP, or differential signals.

4) Determine your gear ratio, like if you want 2000 pulses to go around,Then the calculation method of gear ratio is: $\frac{Encoder\ resolution}{\text{The number of pulses in one turn of the servo motor}}$ ， For example, a 23 bit encoder, then the resolution of the encoder 2^{23}=8388608，Servo parameter Settings PN204=8388608 or PN204=0（When PN204=0, the servo drive will automatically identify the encoder resolution ），PN206=The number of pulses in one turn of the servo motor，Now we want 2,000 pulse servomotors to make one revolution, so we set the parameters to be PN204=0，PN206=2000。

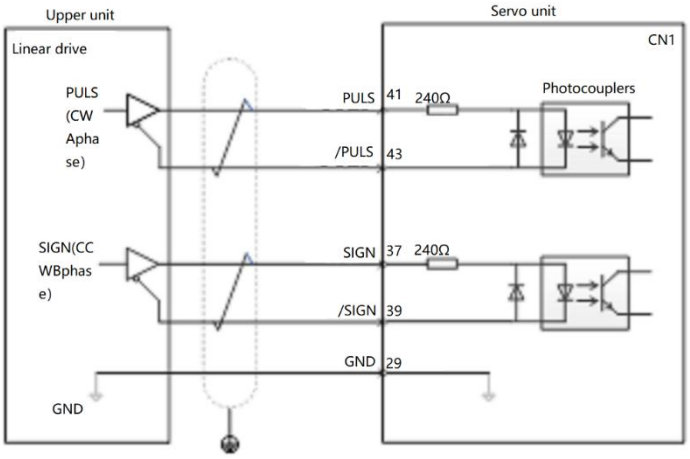
5) The internal enable parameter of our servo is PN001=1

6)Monitor count pulse UN006, for example, if you want to know how many pulses are coming from your controller at this moment， You can power off before powering on or click the soft reset button of the upper computer, and then UN006=0, And then how many pulses you send, UN006 is the number of pulses you send。

7) UN007 (feedback count pulse), if you can monitor whether the values of UN006 and UN007 are consistent, Make sure your pulse count runs out.

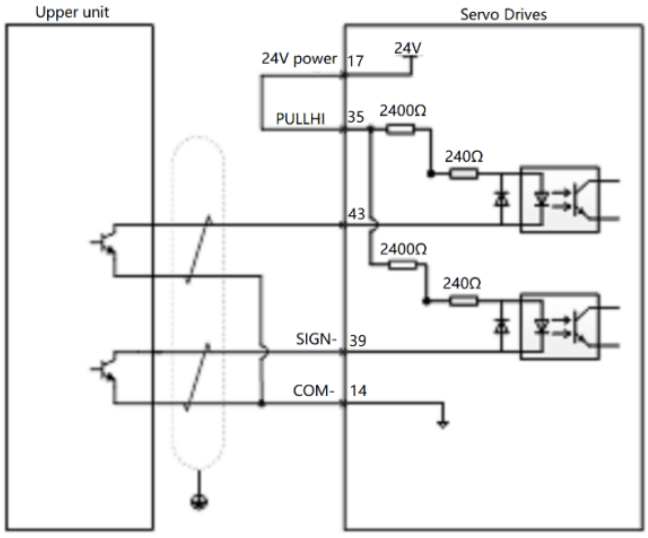
一、low-speed wiring diagram

1、Differential Wiring Diagram

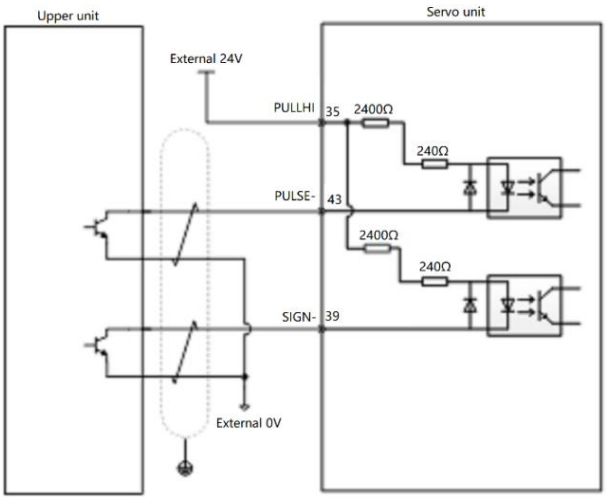


2、NPN collector wiring diagram

1) Use of internal power supply

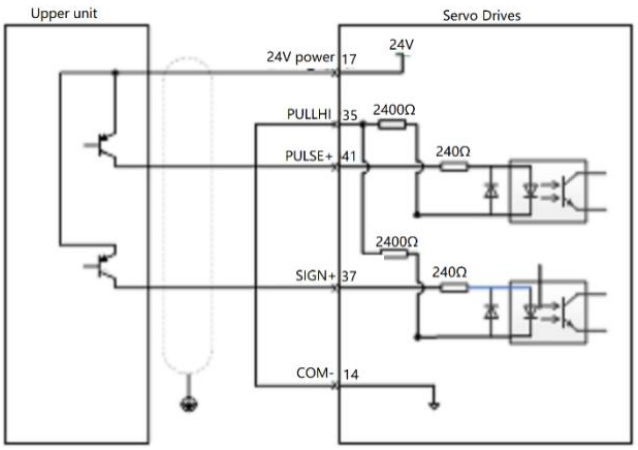


2）Use of external power supply

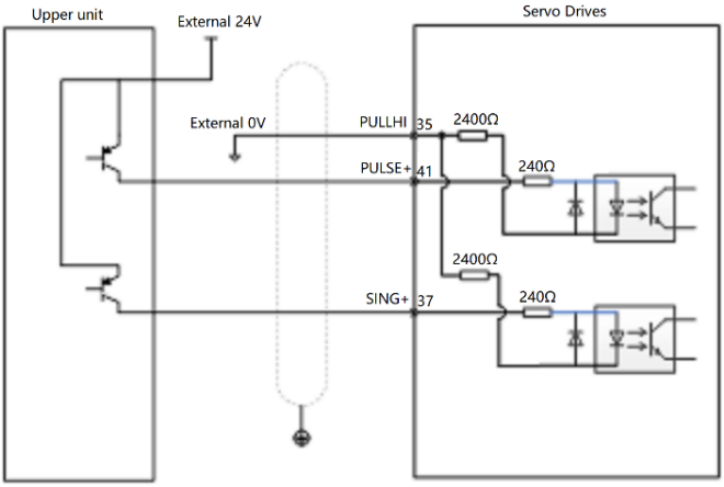


3、PNP collector wiring diagram

1) Use of internal power supply

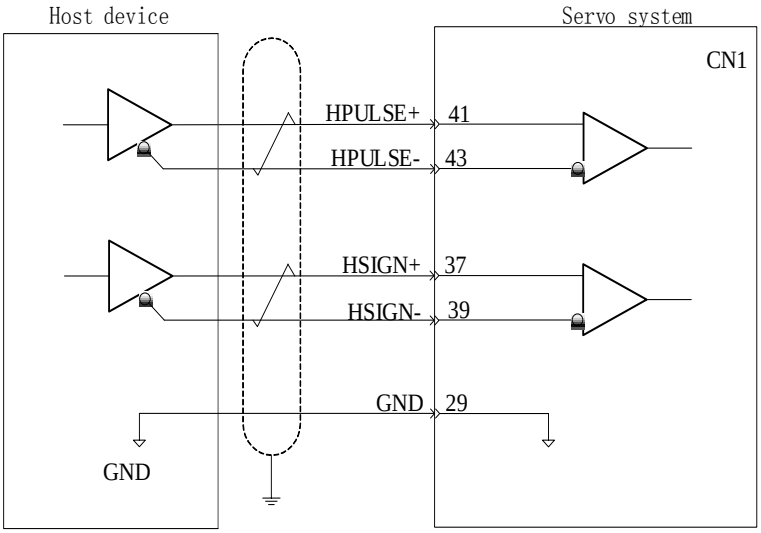


2）Use of external power supply



二、high-speed pulse wiring method

High-speed pulses only support differential connections



三、parameter setting

Parameter	Functional description	Range of settings and definition	Set values are recommended
PN000	Control mode selection	0-Position control mode	0
PN001	Internal enable	0-Enable OFF 1-Enable ON	0
PN201	Pulse input form	0- Pulse + Direction 1- Forward and Reverse Pulse Columns (CW+CCW) 4- 90 °phase difference quadrature pulse AB (4x frequency)	0
PN204	Electronic gear ratio numerator	0-1073741824	0
PN206	Electronic gear ratio denominator	0-1073741824	2000