Appendix 1: Configuration of the servo focusing motor/driver

The NC30, NC30E, NC60 and other autofocus cutting heads use a variety of motor brand configurations such as Yaskawa. In order to facilitate various departments to understand the types and differences of various motors, this document is specially formulated.

1. Configuration type

	Brand	Motor model	Driver model	备注
Config1	Yaskawa	SGM7J-01AFC6S	SGD7S-R90A002,100W	7 series motor, pulse or analog control
Config2	Yaskawa	SGMMS-01ADC6S	SGD7S-R90A002,100W	M motor, pulse or analog control. The driver model of M motor and 7 series motor is the same, but the parameters are different
Config3	Servotronix	PH2-M04A23035T10D	CDHD-1D52AEC2-RO	EtherCAT Bus driver
Config4	Fuji	GYS101D5-RA2	RYH201F6-VV2,200W	Pulse or analog control
Config5	Panasonic	MHMF012L1U2M	MADLT05SF	A6 series driver (pulse or analog control)
Config6	Panasonic	MHMF012L1U2M	MADLN05SE	A6 series driver (pulse or analog control)
Config7	Leadshine	42HSM06-E1	H2-506	Digital hybrid servo motor (pulse control)

Config 7 (Leadshine digital hybrid servo motor) is currently only used for the NC30E model, and config 6 and 7 can only use pulse control.

Config 4 and config 5 are functionally equivalent to Yaskawa Motor.

When the motor / driver with different configurations is used by the user, there

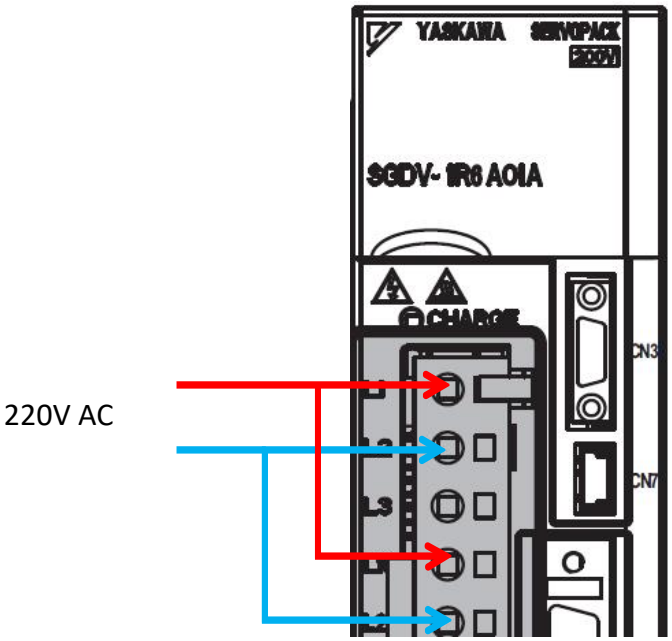
are differences in the connection sequence of the control line of the driver to the host computer, the power connection mode of the driver and the parameter setting.

The host computer control line is an optional material. If the customer does not purchase the WSX host computer control line, WSX will provide the driver wiring diagram for customer reference.

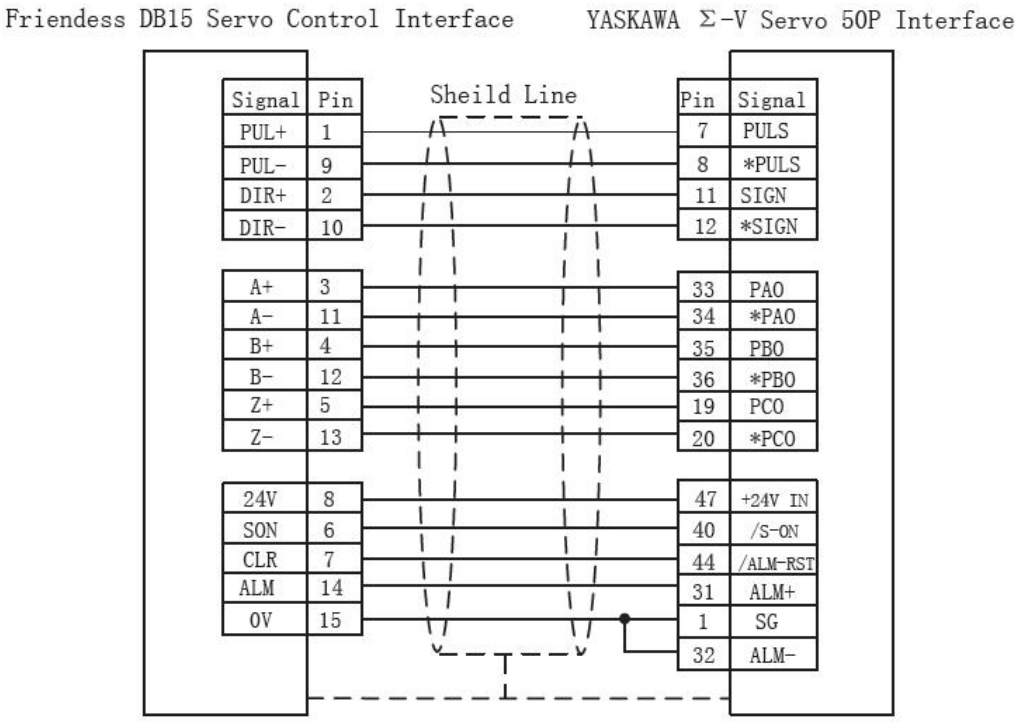
2. Driver wiring and parameter setting

2.1. Yaskawa SGD7S-R90A002,100W diver

2.1.1. Driver power wiring diagram



2.1.2. Wiring diagram of driver and host computer open-loop control



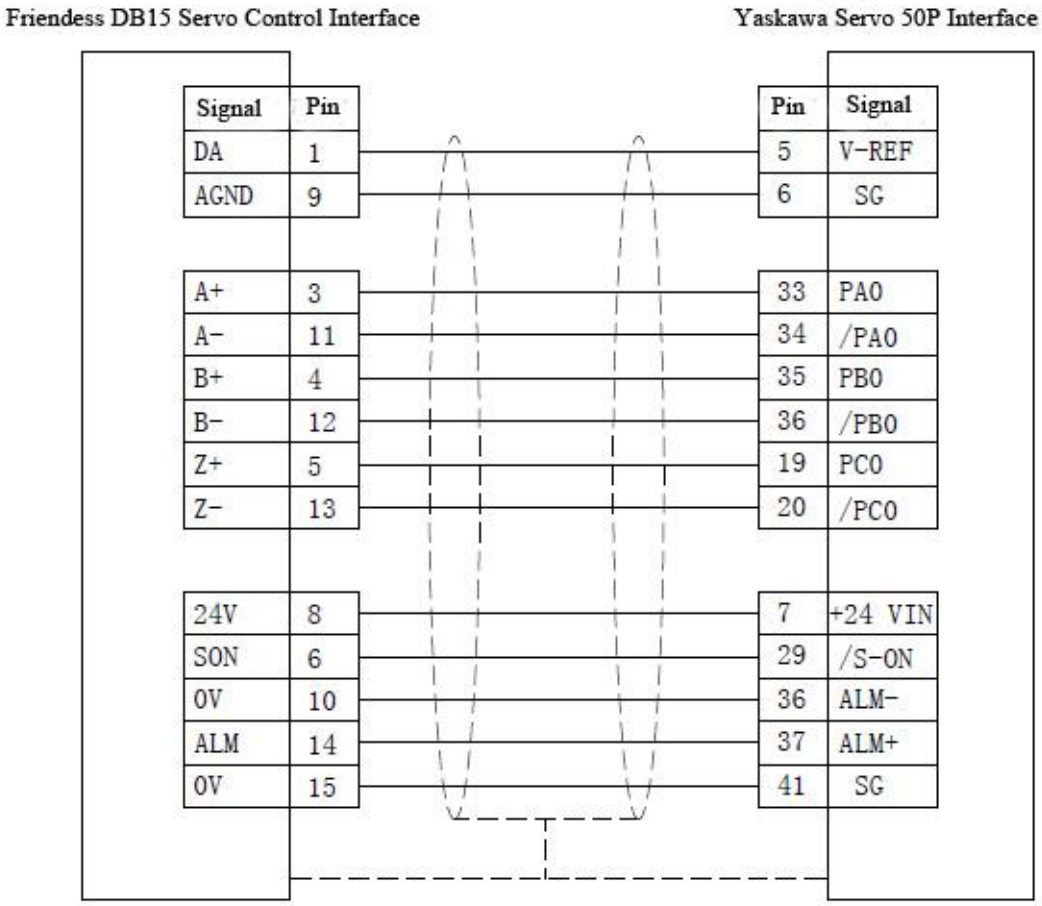
2.1.3. NC30 open loop control parameters and set values

parameter	Value	parameter	Value	parameter	Value
pn000	10	pn210	10000	pn408	100
pn00b	101	pn212	2500	pn40C	2120
pn100	1200	pn304	100	pn50A	8100
pn102	1800	pn401	85	pn50B	6458
pn103	120	pn402	50	pn515	0
pn170	1400	pn403	50		
pn20E	1048576	pn406	100		

2.1.4. NC60 open loop control parameters and set values

parameter	Value	parameter	Value	parameter	Value
pn000	11	pn210	10000	pn408	100
pn00b	101	pn212	2500	pn40C	2120
pn100	1200	pn304	100	pn50A	8100
pn102	1800	pn401	85	pn50B	6458
pn103	120	pn402	50	pn515	0
pn170	1400	pn403	50		
pn20E	1048576	pn406	100		

2.1.5. Driver and host computer closed-loop control wiring diagram



2.1.6. NC30 closed-loop control parameters and set values

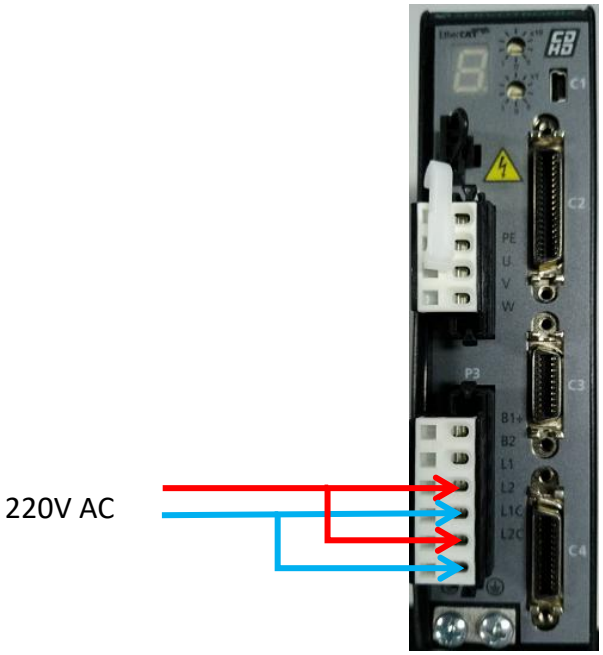
parameter	Value	parameter	Value	parameter	Value
Pn000	000	Pn170	1400	Pn50A	8100
Pn100	75Hz	Pn212	2500	Pn50B	6548
PN101	9.0ms	Pn300	500		
Pn103	120	Pn401	0.3ms		

2.1.7. NC60 closed-loop control parameters and set values

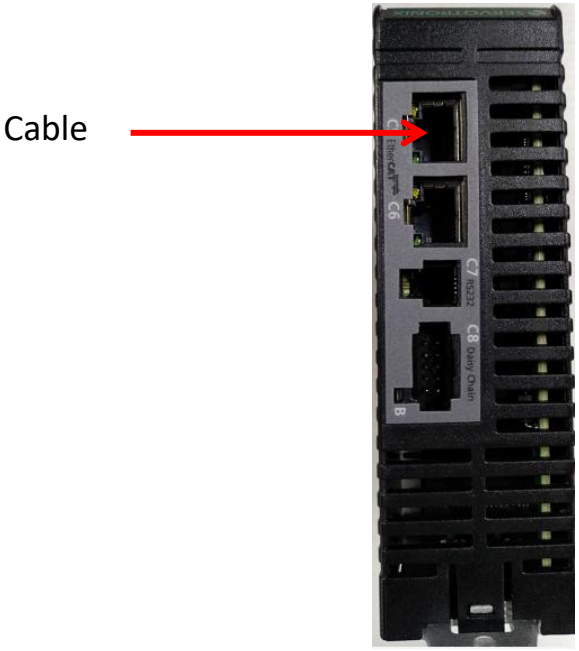
parameter	Value	parameter	Value	parameter	Value
Pn000	001	Pn170	1400	Pn50A	8100
Pn100	75Hz	Pn212	2500	Pn50B	6548
PN101	9.0ms	Pn300	500		
Pn103	120	Pn401	0.3ms		

2.2. Servotronix CDHD-1D52AEC2-RO driver

2.2.1. Driver power wiring diagram

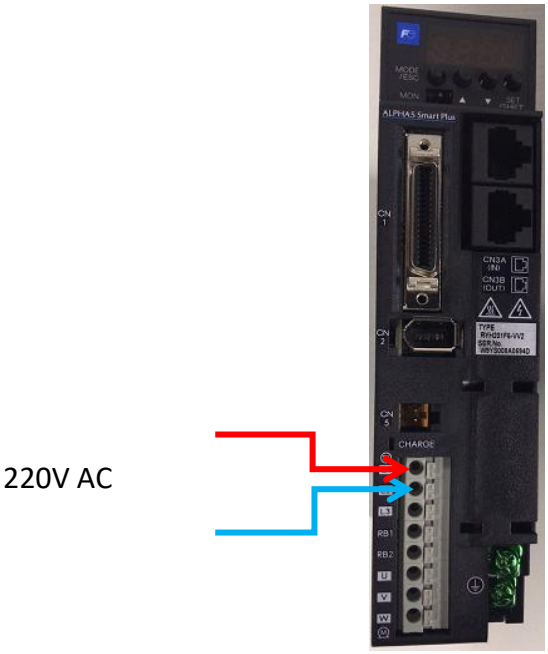


2.2.2. Wiring diagram of driver and host computer control line

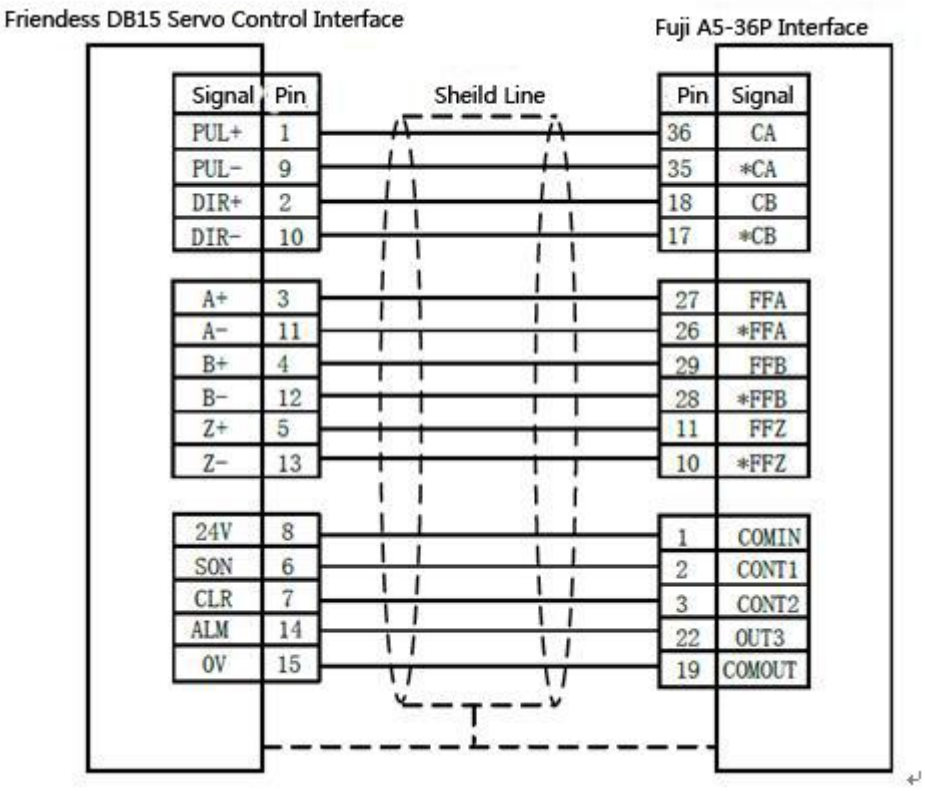


2.3. Fuji RYH201F6-VV2,200W driver

2.3.1. Driver power wiring diagram



2.3.2. Wiring diagram of driver and host computer open-loop control



2.3.3. NC30 open loop control parameters and set values

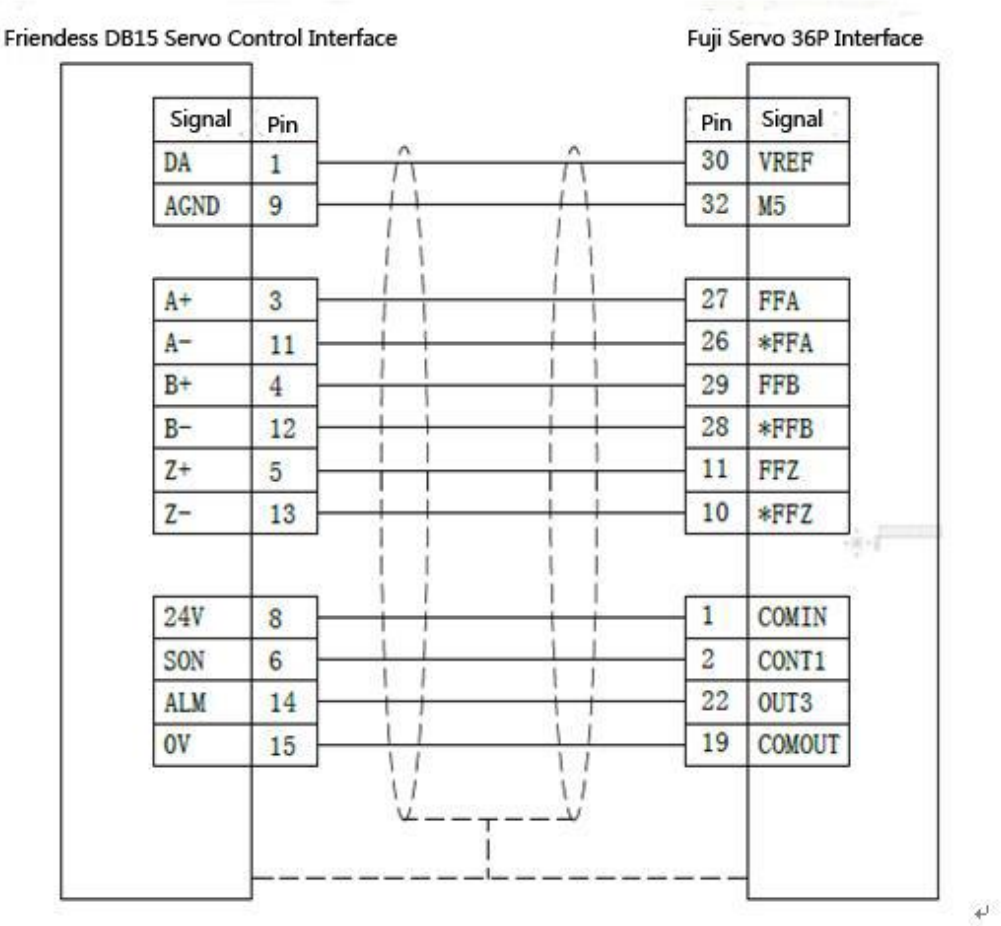
parameter	Value	parameter	Value	parameter	Value
PA1-01	0	PA1-05	10000	PA1-27	50

PA1-03	30	PA1-08	2500	PA1-28	50
PA1-04	1	PA1-15	22		

2.3.4. NC60 open loop control parameters and set values

parameter	Value	parameter	Value	parameter	Value
PA1-01	0	PA1-05	10000	PA1-27	50
PA1-03	30	PA1-08	2500	PA1-28	50
PA1-04	1	PA1-15	22		

2.3.5. Driver and host computer closed-loop control wiring diagram



2.3.6. NC30 closed-loop control parameters and set values

parameter	Value	parameter	Value
PA1_01	1	PA3_26	2
PA1-04	1	PA3_31	6.0
PA1_08	2500	PA1_15	22

2.3.7. NC60 closed-loop control parameters and set values

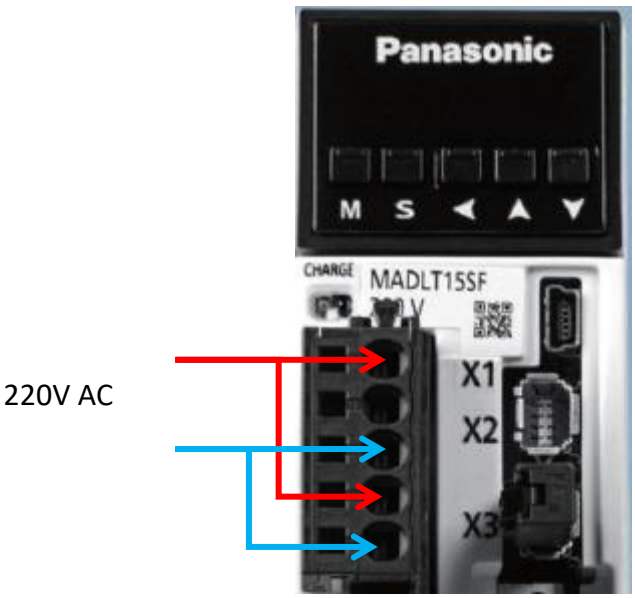
parameter	Value	parameter	Value

PA1_01	1	PA3_26	2
PA1-04	0	PA3_31	6.0
PA1_08	2500	PA1_15	22

2.4. Panasonic MADLT05SF & MADLN05SE driver

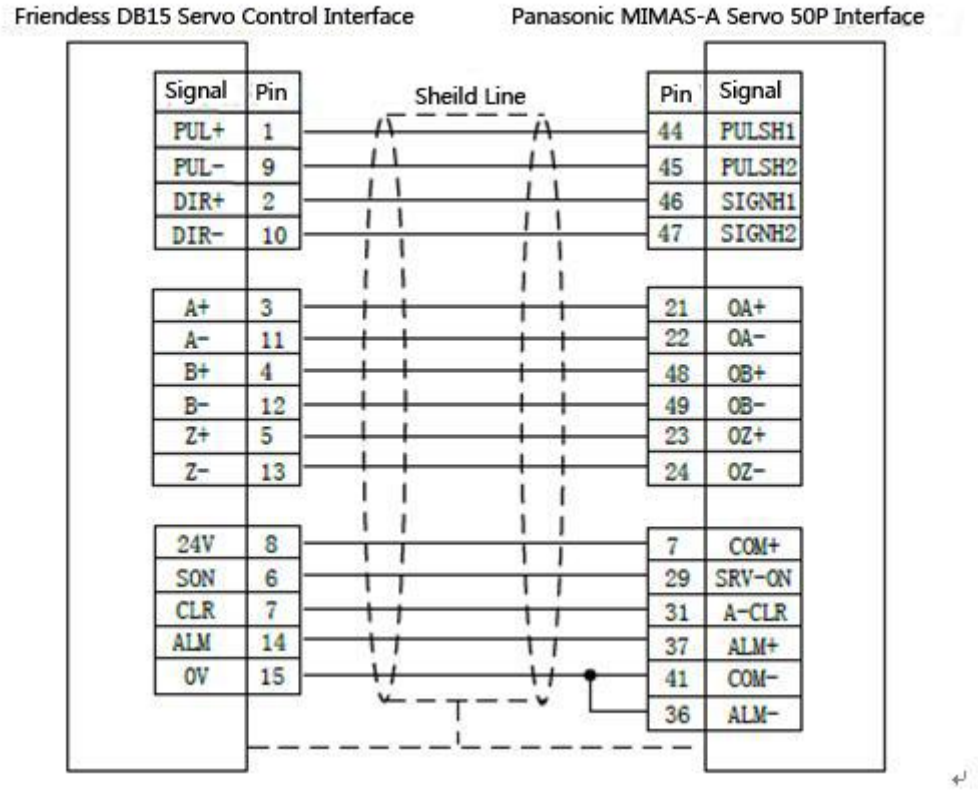
2.4.1. Driver power wiring diagram

The power wiring diagrams of MADLT05SF driver and MADLN05SE driver are the same.



2.4.2. Wiring diagram of driver and host computer open-loop control

The wiring diagrams of MADLT05SF type driver and MADLN05SE type driver are the same as the open loop control of host computer.



2.4.3. NC30 open loop control parameters and set values

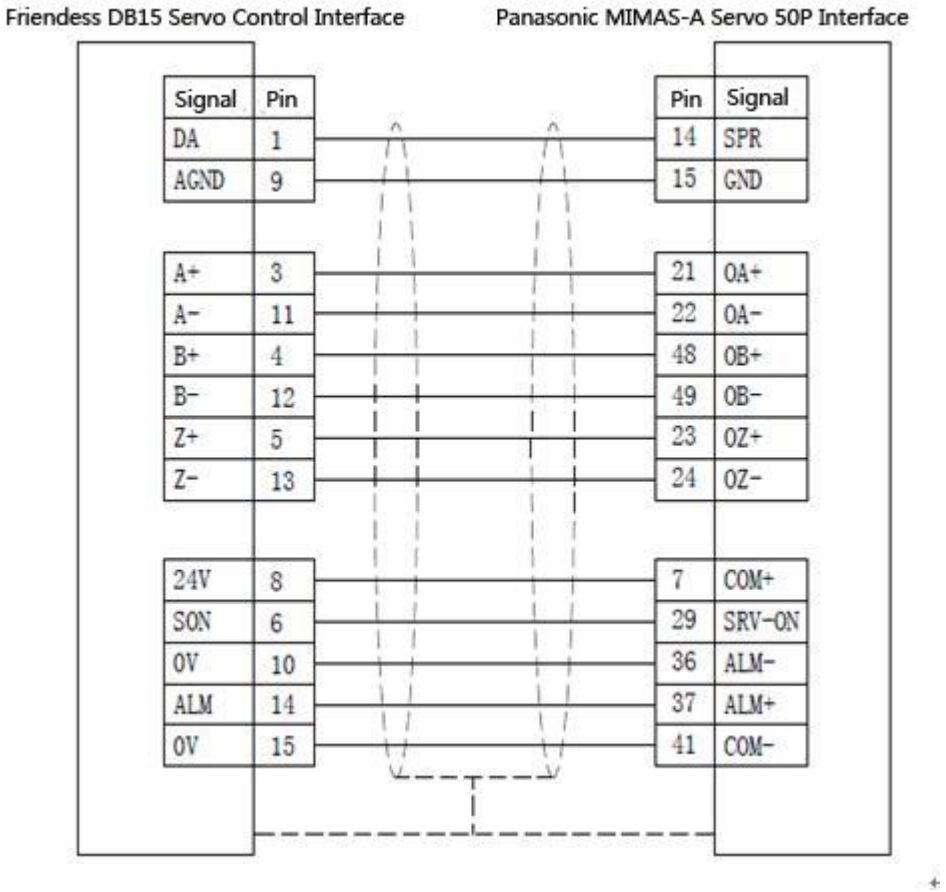
parameter	Value	parameter	Value	parameter	Value
Pr0.00	1	Pr0.03	12	Pr0.06	1
Pr0.01	0	Pr0.04	13	Pr0.07	3
Pr0.02	0	Pr0.05	1	Pr0.13	50

2.4.4. NC60 open loop control parameters and set values

parameter	Value	parameter	Value	parameter	Value
Pr0.00	0	Pr0.03	12	Pr0.06	1
Pr0.01	0	Pr0.04	13	Pr0.07	3
Pr0.02	0	Pr0.05	1	Pr0.13	50

2.4.5. Driver and host computer closed-loop control wiring diagram

MADLT05SF driver can be used for closed-loop control, MADLN05SE driver cannot be used for closed-loop control.



2.4.6. NC30 closed-loop control parameters and set values

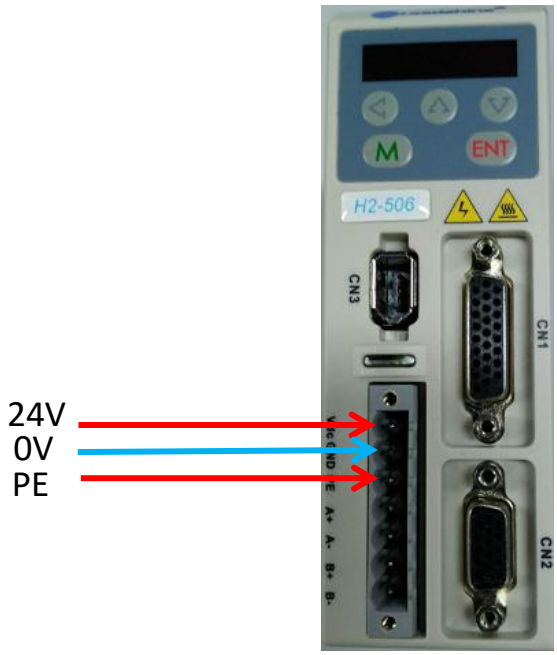
parameter	Value	parameter	Value	parameter	Value
Pr0.00	1	Pr0.04	13	Pr1.02	9.0ms
Pr0.01	1	Pr0.11	2500	Pr1.04	0.3ms
Pr0.02	0	Pr1.01	75Hz	Pr3.02	500

2.4.7. NC60 closed-loop control parameters and set values

parameter	Value	parameter	Value	parameter	Value
Pr0.00	0	Pr0.04	13	Pr1.02	9.0ms
Pr0.01	1	Pr0.11	2500	Pr1.04	0.3ms
Pr0.02	0	Pr1.01	75Hz	Pr3.02	500

2.5. Leadshine H2-506 driver

2.5.1. Driver power wiring diagram



2.5.2. Wiring diagram of driver and host computer control line