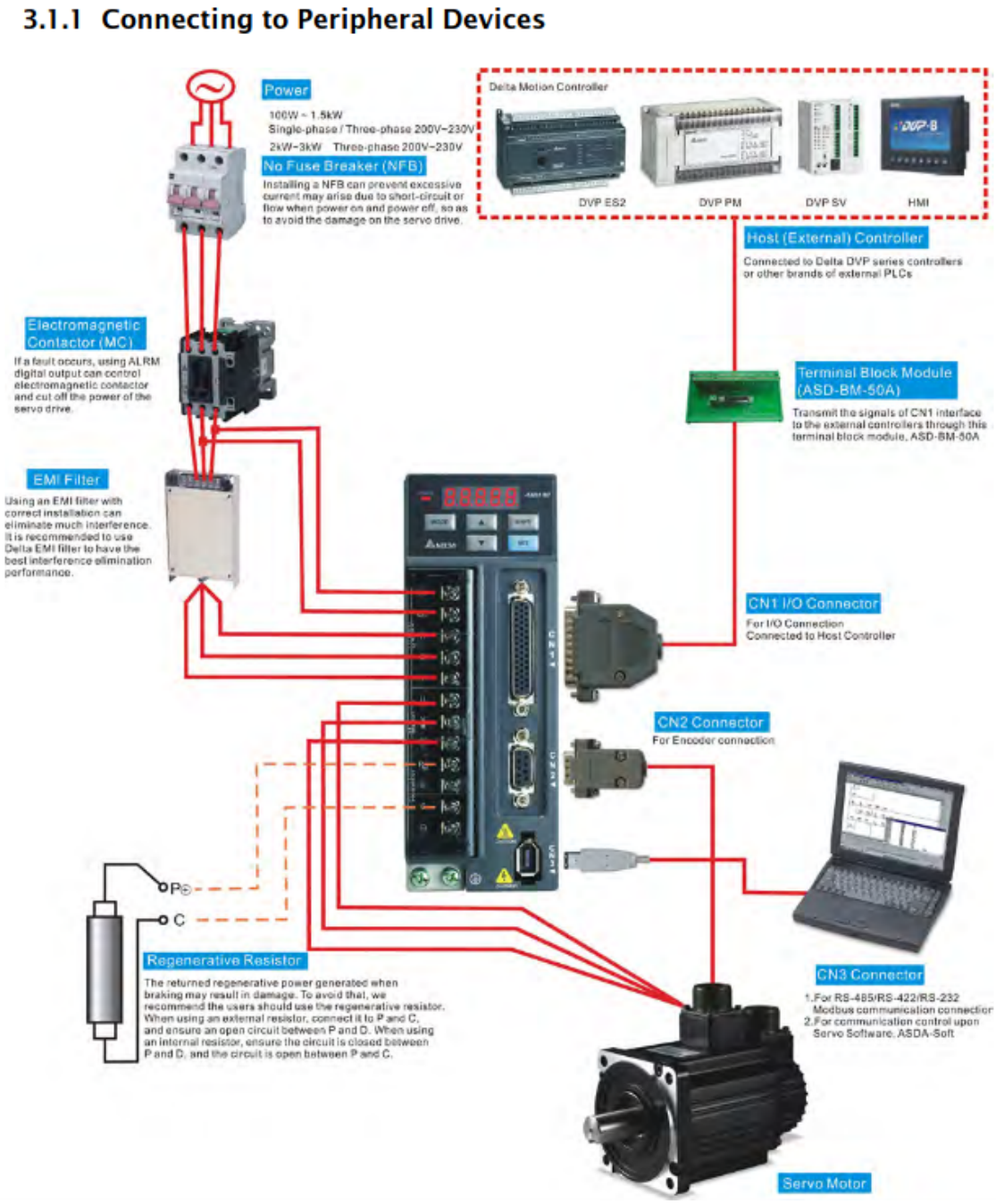
Connecting an ASDA-B2 servo to the myCNC-ET6 controller

This manual is part of the broader series of MyCNC Setup Examples. Select images are taken from the DELTA ASDA-B2 User Manual.

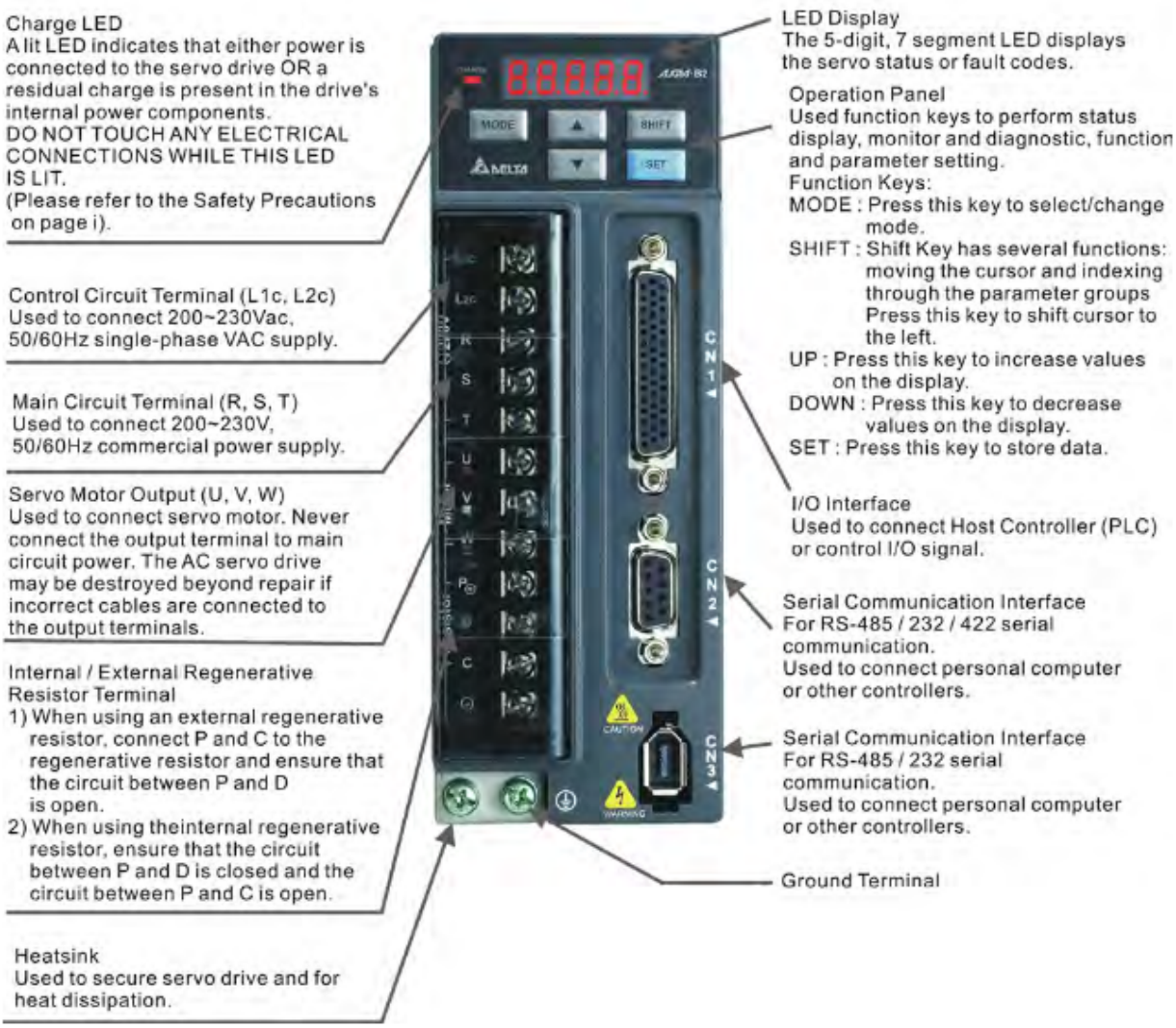
Connection

The connection consists of two sections - power setup and signal connection.

There are 2 cables from the motor to the servo drive - a power cable for powering the drive and an encoder cable. The encoder is connected to the CN2 connector, while the power one is connected to the U, V, W and GND terminals. The wires on the cable have protective covers that are stamped corresponding letters, so it should be clear which wire goes to which corresponding terminal.



The power supply of the servo drive is connected to the terminals L1c and L2c, while the power connection is done through the R, S, and T terminals. In the case of the Eastern European voltage standard (400W), the servopack is connected to 220V, in which case the R and S terminals are used. With a simplified connection, you can simply connect the jumpers from L1c to R and from L2c to S.

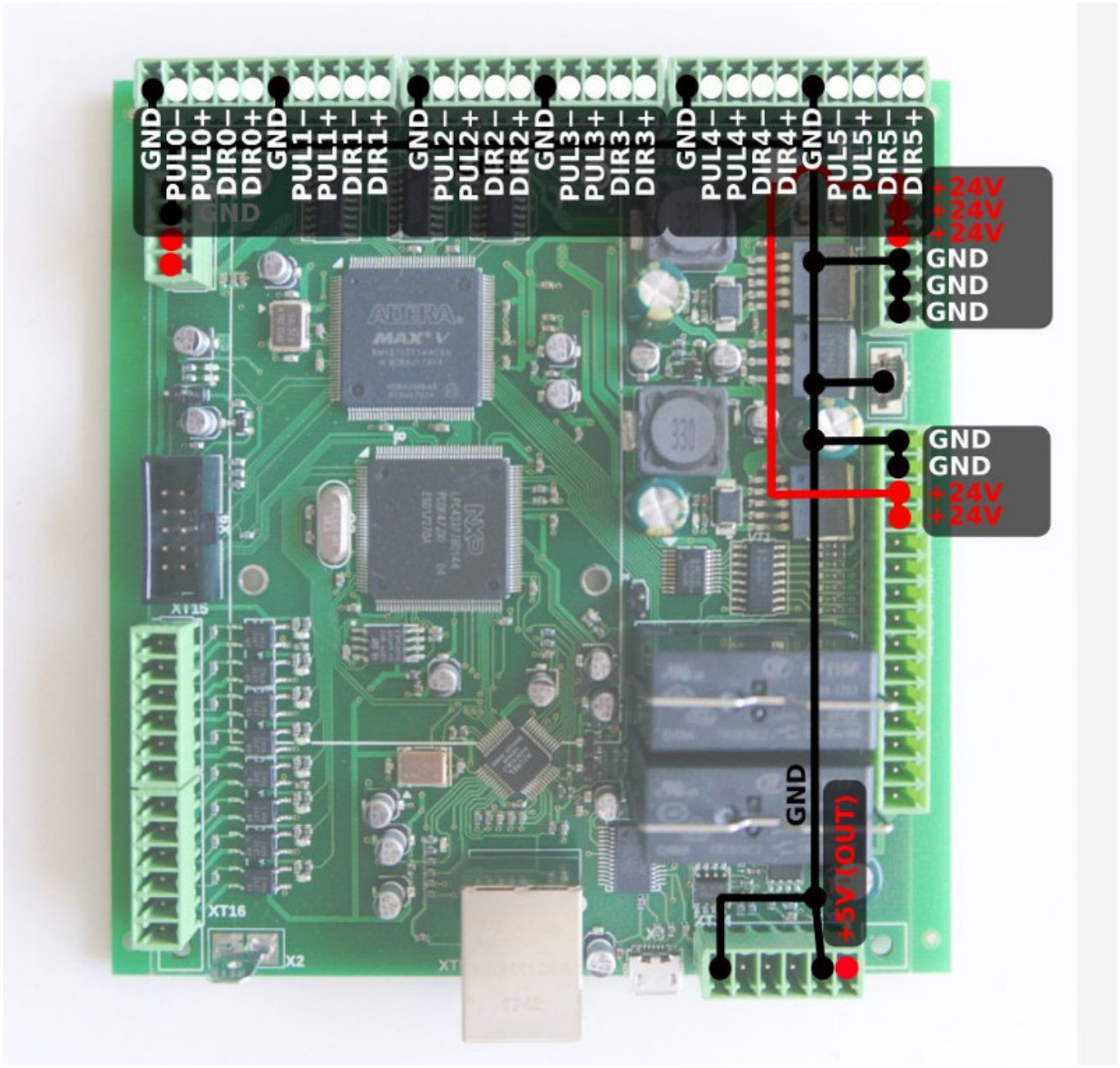


At this point, the connection of the power supply unit is complete. All further connections are made using the CN1 connector, which features the following pinout:

1	DO4+	Digital output
2	DO3-	Digital output
3	DO3+	Digital output
4	DO2-	Digital output
5	DO2+	Digital output
6	DO1-	Digital output
7	DO1+	Digital output
8	DI4-	Digital input
9	DI1-	Digital input
10	DI2-	Digital input
11	COM+	Power input (12~24V)
12	DI9-	Digital input
13	OZ	Encoder Z pulse Line-driver output
14	COM-	VDD(24V) power ground
15	DO6-	Digital output
16	DO6+	Digital output
17	VDD	+24V power output (for external I/O)
18	T_REF	Analog torque Input
19	GND	Analog input signal ground
20	V_REF	Analog speed input (+)
21	OA	Encoder A pulse output
22	/OA	Encoder /A pulse output
23	/OB	Encoder /B pulse output
24	/OZ	Encoder /Z pulse output
25	OB	Encoder B pulse output
26	DO4-	Digital output
27	DO5-	Digital output
28	DO5+	Digital output
29	GND	Analog input signal ground
30	DI8-	Digital input
31	DI7-	Digital input
32	DI6-	Digital input
33	DI5-	Digital input
34	DI3-	Digital input
35	PULL HI	Pulse applied power
36	/HPULSE	High-speed position pulse (-)
37	/SIGN	Position sign (-)
38	HPULSE	High-speed position pulse (+)
39	SIGN	Position sign (+)
40	/HSIGN	High-speed position sign (-)
41	/PULSE	Pulse input (-)
42	HSIGN	High-speed position sign (+)
43	PULSE	Pulse input (+)
44	OCZ	Encoder Z pulse Line-driver output

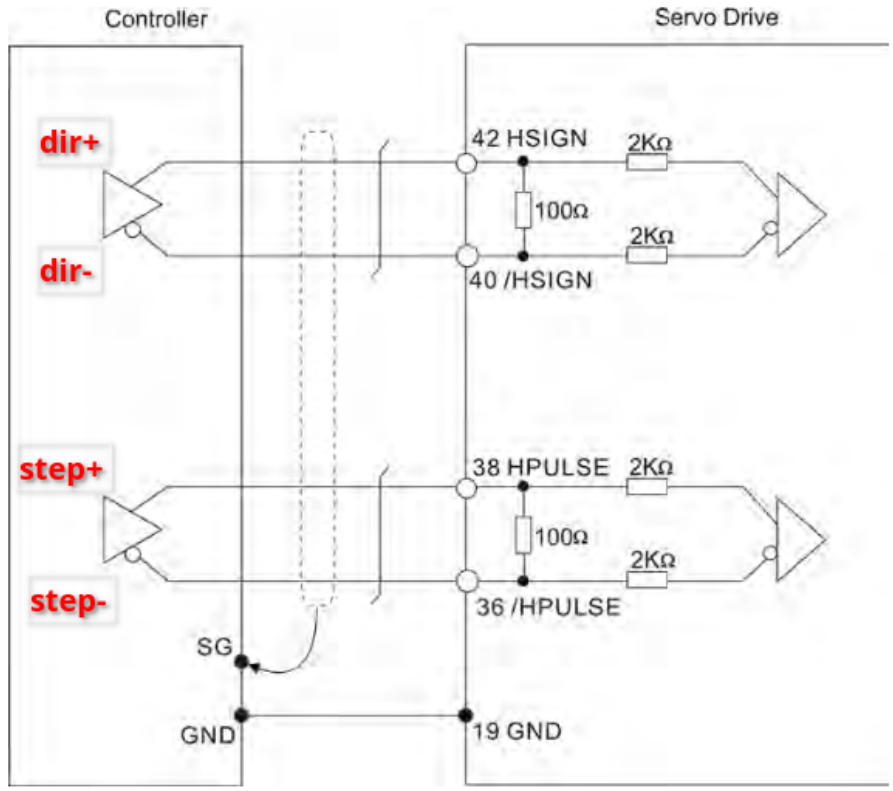
In general, the servo drive must be given a setpoint signal (step-dir), a servo ON/enable signal (SON), and an error reset signal (ARST). Going from the servo drive to the controller, on the other hand, is the Servo Ready signal (SRDY).

Step-dir signals are taken from the controller, using an unused connector:



In this example, we will be using the connector #5. These signals are sent to pins 40.42 and 36.38 of the CN1 connector of the servo drive.

C4-2: High-speed pulse input (Line driver). It requires 5V power supply only. Never apply a 24V power supply.

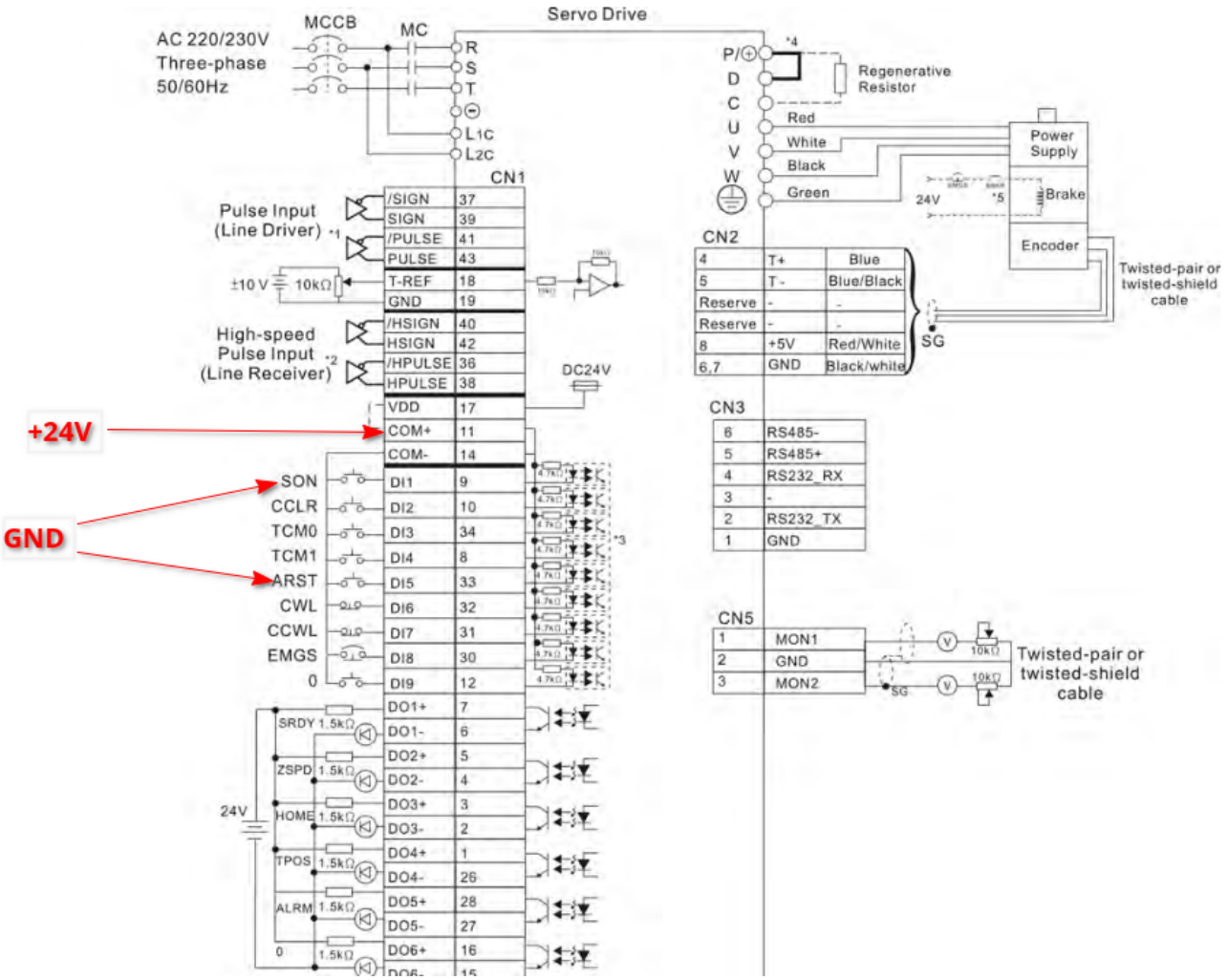


WARNING

➢ ***Caution: The high-speed pulse input interface is not an isolated input interface. To prevent noise and interference, ensure that the ground terminal of the controller and the servo drive should be connected to each other.***

It is also necessary to connect the GND from the controller connector to pin #19 of the servo drive.

In case of this example, 8 discrete signals can be fed into the ET6 controller, and all of them are already used on the machine, so there is nowhere to connect the Servo Ready signal. However, it is still possible to send signals to the servo drive. To do this, connect the +24V from an external PSU to pin #11, and the GND (negative terminal of the same PSU) to pins #9 and 33. Pin #9 will put the servo in the Ready mode (ready for operation), while pin #33 resets the error should one occur.



As an aside, sometimes it is not possible to reset the error using this signal from pin #33. In this case, turning off the power of the servo should accomplish the task. To do this, it is useful to power it through separately (via 6A).

There are two power supplies on the machine - one feeds only the controller and a mini-PC, the other feeds the entire 24V low-voltage machine. Therefore, it is better to take the voltage for supplying signals to the servo drive from the second PSU.

The signals themselves can be organized either through a conventional mechanical button, or by using the unused transistor outputs of the controller, but it is advisable to use the intermediate relays.

Servo Settings

At this point it is time to set up the servo settings.

The easiest method would typically be purchase a cord to connect the servo to a computer, at which point it would be more straightforward to set up. However, there exist situations where the user does not wish to purchase a separate cord (perhaps in the interests of time, if this is the only servo of this type that is used in the shop, etc). In such a scenario, it is technically possible to enter the settings using the buttons on the servo drive panel - this will however be a more laborious process.

Below are the screenshots of the settings provided to the myCNC team by one of our long-term

clients. It is necessary to go over the menu of the servo drive and change the items that differ from the values below.

NOTE: *There are parameters in this menu that cannot be changed, as well as parameters that are not recommended to change manually. It is therefore highly recommended to check the manual prior to entering any changes to these parameters. The myCNC team provides the list below for convenience only.*

In general, the following sections of the menu need to be checked:

1. settings related to the inputs and outputs of the servo drive;
2. operating mode settings (position control);
3. PID settings and resonance frequencies;
4. settings of the electronic gearbox.

At this stage, go through the parameters on the servo drive using the list below. If the parameter values differ from those in the list, consult the manual for the parameter description. If the parameter belongs to the servo settings, it will most likely need to be changed. If the parameter is informational, then it is possible to skip it and move on.

P 0 - XX | P 1 - XX | P 2 - XX | P 3 - XX | P 4 - XX

V 1.021					Code	Parameter value	*	Unit	Min	Max	Default	Description
P0 - 00	★				VER	1,021			0,000	10,000	1,021	Firmware Version
P0 - 01				■	ALE	0x0000			0x0000	0x0000	0x0000	Drive Fault Code
P0 - 02					STS	5			-127	127	0	Drive Status
P0 - 03					MON	0x0000			0x0000	0x0077	0x0000	Analog Monitor Output
P0 - 04				■		0x00000000			0x00000000	0x7FFFFFFF	0x00000000	Reserved
P0 - 05				■		0x00000000			0x00000000	0x7FFFFFFF	0x00000000	Reserved
P0 - 06				■		0x00000000			0x00000000	0x7FFFFFFF	0x00000000	Reserved
P0 - 07				■		0x00000000			0x00000000	0x7FFFFFFF	0x00000000	Reserved
P0 - 08	★				TSON	3200658		Hour	0	4294967295	0	Servo Startup Time
P0 - 09	★			■	CM1	-112939984			-2147483648	2147483647	0	Status Monitor 1
P0 - 10	★			■	CM2	-112939984			-2147483648	2147483647	0	Status Monitor 2
P0 - 11	★			■	CM3	-112939984			-2147483648	2147483647	0	Status Monitor 3
P0 - 12	★			■	CM4	-112939984			-2147483648	2147483647	0	Status Monitor 4
P0 - 13	★			■	CM5	-112939984			-2147483648	2147483647	0	Status Monitor 5
P0 - 14	★			■		0			0	65535	0	Reserved
P0 - 15	★			■		0			0	65535	0	Reserved
P0 - 16	★			■		0			0	65535	0	Reserved
P0 - 17					CM1A	0			0	127	0	Display Status Monitor 1
P0 - 18					CM2A	0			0	127	0	Display Status Monitor 2
P0 - 19					CM3A	0			0	127	0	Display Status Monitor 3
P0 - 20					CM4A	0			0	127	0	Display Status Monitor 4
P0 - 21					CM5A	0			0	127	0	Display Status Monitor 5
P0 - 22	★					0x00000000			0x00000000	0x7FFFFFFF	0x00000000	Reserved
P0 - 23	★					0x00000000			0x00000000	0x7FFFFFFF	0x00000000	Reserved
P0 - 24	★					0x00000000			0x00000000	0x7FFFFFFF	0x00000000	Reserved
P0 - 25	★			■		0x00000000			*	*	0x00000000	Reserved
P0 - 26	★			■		0x00000000			*	*	0x00000000	Reserved
P0 - 27	★			■		0x00000000			*	*	0x00000000	Reserved
P0 - 28	★			■		0x00000000			*	*	0x00000000	Reserved
P0 - 29	★			■		0x00000000			*	*	0x00000000	Reserved
P0 - 30	★			■		0x00000000			*	*	0x00000000	Reserved
P0 - 31	★			■		0x00000000			*	*	0x00000000	Reserved
P0 - 32	★			■		0x00000000			*	*	0x00000000	Reserved
P0 - 33	★			■		0			0	65535	0	Reserved
P0 - 34	★			■		0			0	65535	0	Reserved
P0 - 35	★			■		0x00000000			0x00000000	0x0000FFFF	0x00000000	Reserved
P0 - 36	★			■		0x00000000			0x00000000	0x0000FFFF	0x00000000	Reserved
P0 - 37	★			■		0x00000000			0x00000000	0x0000FFFF	0x00000000	Reserved
P0 - 38	★			■		0x00000000			0x00000000	0x0000FFFF	0x00000000	Reserved
P0 - 39	★			■		0x00000000			0x00000000	0x0000FFFF	0x00000000	Reserved
P0 - 40	★			■		0x00000000			0x00000000	0x0000FFFF	0x00000000	Reserved
P0 - 41	★			■		0x00000000			0x00000000	0x0000FFFF	0x00000000	Reserved
P0 - 42	★			■		0x00000000			0x00000000	0x0000FFFF	0x00000000	Reserved
P0 - 43	★			■		0			0	65535	0	Reserved

P0 - 40				0x00000000		0x00000000	0x0000FFFF	0x00000000	Reserved
P0 - 41				0x00000000		0x00000000	0x0000FFFF	0x00000000	Reserved
P0 - 42				0x00000000		0x00000000	0x0000FFFF	0x00000000	Reserved
P0 - 43				0		0	65535	0	Reserved
P0 - 44			PCMN	-112939984		-2147483648	2147483647	0	Status Monitor(for PC Software)
P0 - 45			PCMNA	0		0	127	0	Display Status Monitor (for PC Software)
P0 - 46			SVSTS	0x0015		0x0000	0xFFFF	0x0000	Servo Output Status Display
P0 - 47				0		-2147483648	2147483646	By Model	
P0 - 48				0		-2147483648	2147483647	0	
P0 - 49				0		-2147483648	2147483647	0	
P0 - 50				0		-2147483648	2147483647	0	
P0 - 51				0		-2147483648	2147483647	0	
P0 - 52				0		-2147483648	2147483647	0	
P0 - 53				0		-2147483648	2147483647	0	
P0 - 54				0		-2147483648	2147483647	0	
P0 - 55				0		-2147483648	2147483647	0	
P0 - 56				0		-2147483648	2147483647	0	
P0 - 57				0		-2147483648	2147483647	0	
P0 - 58				0		-2147483648	2147483647	0	
P0 - 59				0		-2147483648	2147483647	0	
P0 - 60				0		-2147483648	2147483647	0	
P0 - 61				0		-2147483648	2147483647	0	
P0 - 62				0		-2147483648	2147483647	0	

P0 - XX | P1 - XX | P2 - XX | P3 - XX | P4 - XX

V 1.021				Code	Parameter value	*	Unit	Min	Max	Default	Description
P1 - 00				PTT	0x1002			0x0000	0x1142	0x0002	External Pulse Input Type
P1 - 01				CTL	0x0000			0x0000	0x010A	0x0000	Control Mode and Output Direction
P1 - 02				PSTL	0x0000			0x0000	0x0011	0x0000	Speed and Torque Limit Setting
P1 - 03				AOUT	0x0000			0x0000	0x0013	0x0000	Pulse Output Polarity Setting
P1 - 04				MON1	100		%	0	100	100	Analog Monitor Output Proportion 1 (MON1)
P1 - 05				MON2	100		%	0	100	100	Analog Monitor Output Proportion 2 (MON2)
P1 - 06				SFLT	0		ms	0	1000	0	Accel / Decel Smooth Constant of Analog Speed Command (Low-pass Filter)
P1 - 07				TFLT	0		ms	0	1000	0	Smooth Constant of Analog Torque Command (Low-pass Filter)
P1 - 08				PFLT	0		10ms	0	1000	0	Smooth Constant of Position Command (Low-pass Filter)
P1 - 09				SP1	1000		0.1r/min	-60000	60000	1000	1st Speed Command/ Limit
P1 - 10				SP2	2000		0.1r/min	-60000	60000	2000	2nd Speed Command/ Limit
P1 - 11				SP3	3000		0.1r/min	-60000	60000	3000	3rd Speed Command/ Limit
P1 - 12				TQ1	100		%	-350	350	100	1st Torque Command/ Limit
P1 - 13				TQ2	100		%	-350	350	100	2nd Torque Command/ Limit
P1 - 14				TQ3	100		%	-350	350	100	3rd Torque Command/ Limit
P1 - 15					1			1	32767	1	Reserved
P1 - 16					100			1	300	100	Reserved
P1 - 17					5			1	300	5	Reserved
P1 - 18					5			0	300	5	Reserved
P1 - 19					3			0	20	3	Reserved
P1 - 20					10			0	30000	10	Reserved
P1 - 21					500			0	30000	500	Reserved
P1 - 22					20000			0	30000	20000	Reserved
P1 - 23					500			0	30000	500	Reserved
P1 - 24					10			0	30000	10	Reserved
P1 - 25					1000			10	1000	1000	Reserved
P1 - 26					0			0	9	0	Reserved
P1 - 27					1000			10	1000	1000	Reserved
P1 - 28					0			0	9	0	Reserved
P1 - 29					500			0	30000	500	Reserved
P1 - 30					500			0	30000	500	Reserved
P1 - 31					500			0	30000	500	Reserved
P1 - 32				LSTP	0x0000			0x0000	0x0021	0x0000	Motor Stop Mode Selection
P1 - 33					0x0000			0x0000	0x0001	0x0000	Reserved
P1 - 34				TACC	200		ms	1	20000	200	Acceleration Time
P1 - 35				TDEC	200		ms	1	20000	200	Deceleration Time
P1 - 36				TSL	0		ms	0	10000	0	Accel /Decel S-curve
P1 - 37				GDR	1,4		0.1times	0,0	200,0	1,0	Ratio of Load Inertia to Servo Motor Inertia
P1 - 38				ZSPD	10,0		0.1r/min	0,0	200,0	10,0	Zero Speed Range Setting
P1 - 39				SSPD	3000		r/min	0	5000	3000	Target Rotation Speed
P1 - 40				VCM	3000		r/min	0	50000	3000	Max. Analog Speed Command / Limit
P1 - 41				TCM	100		%	0	1000	100	Max. Analog Torque Command
P1 - 42				MBT1	0		ms	0	1000	0	On Delay Time of Electromagnetic Brake
P1 - 43				MBT2	0		ms	-1000	1000	0	OFF Delay Time of Electromagnetic Brake

P1 - 40				VCM	3000	r/min	0	50000	3000	Max. Analog Speed Command / Limit
P1 - 41		▲		TCM	100	%	0	1000	100	Max. Analog Torque Command
P1 - 42				MBT1	0	ms	0	1000	0	On Delay Time of Electromagnetic Brake
P1 - 43				MBT2	0	ms	-1000	1000	0	OFF Delay Time of Electromagnetic Brake
P1 - 44				GR1	400	pulse	1	67108863	16	Electronic Gear Ratio (1st Numerator) (N1)(command unit: 160000 pulse/rev)
P1 - 45		▲		GR2	9	pulse	1	2147483647	10	Electronic Gear Ratio (Denominator) (M)(command unit: 160000 pulse/rev)
P1 - 46		▲		GR3	2500	pulse	4	40000	2500	Encoder Output Pulse Number
P1 - 47				SPOK	10	r/min	0	300	10	
P1 - 48			■		0x0000		0x0000	0x7FFF	0x0000	Reserved
P1 - 49			■		0		0	32767	0	Reserved
P1 - 50	★		■		10000		0	32767	10000	Reserved
P1 - 51	★		■		10000		0	32767	10000	Reserved
P1 - 52				RES1	100	Ohm	10	750	40	Regenerative Resistor Value
P1 - 53				RES2	60	Watt	30	3000	60	Regenerative Resistor Capacity
P1 - 54				PER	1600	pulse	0	1280000	1600	Positioning Completed Width
P1 - 55				MSPD	3000	rpm	0	6300	3000	Maximum Speed Limit
P1 - 56				OVW	120	%	0	120	120	Output Overload Warning
P1 - 57				CRSHA	0	%	0	300	0	Motor Overshoot Warning Percentage
P1 - 58				CRSHT	1	ms	0	1000	1	Motor Overshoot Warning Time
P1 - 59				MFLT	0,0	0.1ms	0,0	4,0	0,0	Analog Speed Linear Filter
P1 - 60	★		■		0		0	0	0	Reserved
P1 - 61	★		■		0		0	0	0	Reserved
P1 - 62				FRCL	0	%	0	100	0	Friction Compensation Percentage
P1 - 63				FRCT	0		0	1000	0	Friction Compensation Smooth Constant
P1 - 64	★		■		0		0	0	0	Reserved
P1 - 65	★		■		0		0	0	0	Reserved
P1 - 66			■		0		0	0	0	Reserved
P1 - 67	★		■		0		0	0	0	Reserved
P1 - 68				PFLT2	0	ms	0	100	4	Position Command Moving Filter
P1 - 69	★		■		0		0	0	0	Reserved
P1 - 70	★		■		0		0	0	0	Reserved
P1 - 71	★		■		0		0	0	0	Reserved
P1 - 72			■		0		0	0	0	Reserved
P1 - 73			■		0		0	0	0	Reserved
P1 - 74		▲	■		0x0000		0x0000	0x0000	0x0000	Reserved
P1 - 75			■		0		0	0	0	Reserved
P1 - 76		▲		AMSPD	5500	rpm	0	6000	5500	Max. Rotation Speed of Encoder Output

P 0 - XX | P 1 - XX | P 2 - XX | P 3 - XX | P 4 - XX

V 1.021				Code	Parameter value	*	Unit	Min	Max	Default	Description
P2 - 00				KPP	314	R	rad/s	0	2047	35	Proportional Position Loop Gain
P2 - 01				PPR	100	R	%	10	500	100	Position Loop Gain Switching Rate
P2 - 02				PFG	50	R	%	0	100	50	Position Feed Forward Gain
P2 - 03				PFF	5	R	ms	2	100	5	Smooth Constant of Position Feed Forward Gain
P2 - 04				KVP	1256	R	rad/s	0	8191	500	Proportional Speed Loop Gain
P2 - 05				SPR	100	R	%	10	500	100	Speed Loop Gain Switching Rate
P2 - 06				KVI	200	R	rad/s	0	1023	100	Speed Integral Compensation
P2 - 07				KVF	0	R	%	0	100	0	Speed Feed Forward Gain
P2 - 08			■	PCTL	36	R		0	65535	0	Special Factory Setting
P2 - 09				DRT	2	R	2ms	0	20	2	Bounce Filter
P2 - 10				DI1	0x0101	R		0x0000	0x015F	0x0101	Digital Input Terminal 1 (DI1)
P2 - 11				DI2	0x0104	R		0x0000	0x015F	0x0104	Digital Input Terminal 2 (DI2)
P2 - 12				DI3	0x0116	R		0x0000	0x015F	0x0116	Digital Input Terminal 3 (DI3)
P2 - 13				DI4	0x0117	R		0x0000	0x015F	0x0117	Digital Input Terminal 4 (DI4)
P2 - 14				DI5	0x0102	R		0x0000	0x015F	0x0102	Digital Input Terminal 5 (DI5)
P2 - 15				DI6	0x0000	R		0x0000	0x015F	0x0022	Digital Input Terminal 6 (DI6)
P2 - 16				DI7	0x0000	R		0x0000	0x015F	0x0023	Digital Input Terminal 7 (DI7)
P2 - 17				DI8	0x0000	R		0x0000	0x015F	0x0021	Digital Input Terminal 8 (DI8)
P2 - 18				DO1	0x0102	R		0x0000	0x013F	0x0101	Digital Output Terminal 1 (DO1)
P2 - 19				DO2	0x0103	R		0x0000	0x013F	0x0103	Digital Output Terminal 2 (DO2)
P2 - 20				DO3	0x0109	R		0x0000	0x013F	0x0109	Digital Output Terminal 3 (DO3)
P2 - 21				DO4	0x0105	R		0x0000	0x013F	0x0105	Digital Output Terminal 4 (DO4)
P2 - 22				DO5	0x0007	R		0x0000	0x013F	0x0007	Digital Output Terminal 5 (DO5)
P2 - 23				NCF1	1000	R	Hz	50	2000	1000	Notch Filter 1 (Resonance Suppression)
P2 - 24				DPH1	0	R	dB	0	32	0	Notch Filter Attenuation Rate 1 (Resonance Suppression)
P2 - 25				NLP	8	R	0.1ms	0	1000	20	Low-pass Filter Time Constant (Resonance Suppression)
P2 - 26				DST	200	R		0	1023	0	External Anti-Interference Gain
P2 - 27				GCC	0x0000	R		0x0000	0x0018	0x0000	Gain Switching Control Selection
P2 - 28				GUT	10	R	10ms	0	1000	10	Gain Switching Time Constant
P2 - 29				GPE	160000	R		0	3840000	160000	Gain Switching Condition
P2 - 30			■	INH	0	R		-8	8	0	Auxiliary Functions
P2 - 31				AUT1	40	R	Hz	1	1000	40	Speed Responsiveness Setting of Auto and Semi-Auto Mode
P2 - 32				AUT2	0x0000	R		0x0000	0x0002	0x0000	Tuning Mode Selection
P2 - 33				AUT3	0x0001	R		0x0000	0x0001	0x0000	Semi-Auto Mode Inertia Adjustment Selection
P2 - 34				SDEV	5000	R	rpm	1	6000	5000	Overspeed Warning Condition
P2 - 35				PDEV	20000	R	pulse	1	16000000	480000	Excessive Error Warning Condition
P2 - 36				DI9	0x0130	R		0x0000	0x015F	0x0130	Digital Input Terminal 9 (DI9)
P2 - 37				DO6	0x0105	R		0x0000	0x013F	0x0105	Digital Output Terminal 6 (DO6)
P2 - 38	★		■		0x0000	R		0x0000	0xFFFF	0x0000	Reserved
P2 - 39	★		■		0x0000	R		0x0000	0xFFFF	0x0000	Reserved
P2 - 40	★		■		0x0000	R		0x0000	0xFFFF	0x0000	Reserved
P2 - 41	★		■		0x0000	R		0x0000	0xFFFF	0x0000	Reserved
P2 - 42	★		■		0	R		0	65535	0	Reserved
P2 - 43				NCF2	1000	R	Hz	50	2000	1000	Notch Filter 2 (Resonance Suppression)

P2 - 40	★	■		0x0000	R		0x0000	0xFFFF	0x0000	Reserved
P2 - 41	★	■		0x0000	R		0x0000	0xFFFF	0x0000	Reserved
P2 - 42	★	■		0	R		0	65535	0	Reserved
P2 - 43			NCF2	1000	R	Hz	50	2000	1000	Notch Filter 2 (Resonance Suppression)
P2 - 44			DPH2	0	R	dB	0	32	0	Notch Filter Attenuation Rate 2 (Resonance Suppression)
P2 - 45			NCF3	1000	R	Hz	50	2000	1000	Notch Filter 3 (Resonance Suppression)
P2 - 46			DPH3	0	R	dB	0	32	0	Notch Filter Attenuation Rate 3 (Resonance Suppression)
P2 - 47			ANCF	1	R		0	2	1	Auto Resonance Suppression Mode Selection
P2 - 48			ANCL	100	R		1	300	100	Auto Resonance Suppression Sensitivity Setting
P2 - 49			SJIT	0x0007	R		0x0000	0x001F	0x000B	Speed Detection Filter and Jitter Suppression
P2 - 50			DCLR	0x0000	R		0x0000	0x0011	0x0000	Pulse Deviation Clear Mode
P2 - 51	★	■		0	R		0	0	0	Reserved
P2 - 52	★	■		0	R		0	0	0	Reserved
P2 - 53			KPI	0	R	rad/s	0	1023	0	Position Integral Compensation
P2 - 54		■		0	R		0	0	0	Reserved
P2 - 55	★	■		0	R		0	0	0	Reserved
P2 - 56	★	■		0	R		0	0	0	Reserved
P2 - 57	★	■		0	R		0	0	0	Reserved
P2 - 58	★	■		0	R		0	0	0	Reserved
P2 - 59	★	■		0	R		0	0	0	Reserved
P2 - 60			GR4	16	R	pulse	1	67108863	16	Electronic Gear Ratio (2nd Numerator) (N2)(command unit: 160000 pulse/rev)
P2 - 61			GR5	16	R	pulse	1	67108863	16	Electronic Gear Ratio (3rd Numerator) (N3)(command unit: 160000 pulse/rev)
P2 - 62			GR6	16	R	pulse	1	67108863	16	Electronic Gear Ratio (3th Numerator) (N4)(command unit: 160000 pulse/rev)
P2 - 63	★	■		0	R		0	0	0	Reserved
P2 - 64		■		0x0000	R		0x0000	0x0000	0x0000	Reserved
P2 - 65			GBIT	0x0000	R		0x0000	0xFFFF	0x0000	Special Function 1
P2 - 66			GBIT2	0x0000	R		0x0000	0xFFFF	0x0000	Special Function 2
P2 - 67			JSL	1,5	R	0.1times	0,0	20,0	1,5	Inertia Estimation Detection Level
P2 - 68	★			0x0000	R		0x0000	0xFFFF	0x0000	Reserved
P2 - 69	★			0x0000	R		0x0000	0xFFFF	0x0000	Reserved
P2 - 70	★			0x0000	R		0x0000	0xFFFF	0x0000	
P2 - 71	★			0x0000	R		0x0000	0xFFFF	0x0000	

P0 - XX | P1 - XX | P2 - XX | P3 - XX | P4 - XX

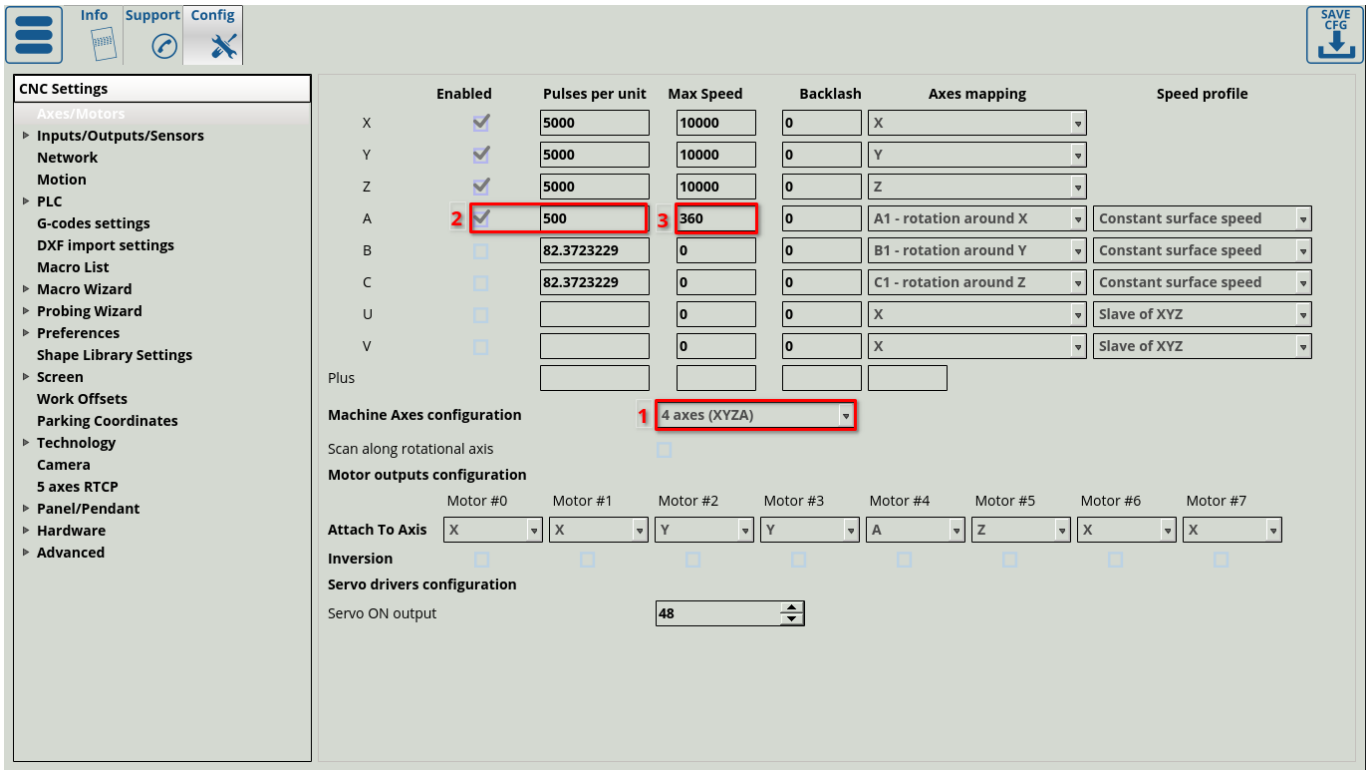
V 1.021				Code	Parameter value	*	Unit	Min	Max	Default	Description
P3 - 00				ADR	0x007F			0x0001	0x007F	0x007F	Communication Address Setting
P3 - 01				BRT	0x0033		bps	0x0000	0x0055	0x0033	Transmission Speed
P3 - 02				PTL	0x0066			0x0000	0x0088	0x0066	Communication Protocol
P3 - 03				FLT	0x0000			0x0000	0x0011	0x0000	Transmission Fault Treatment
P3 - 04				CWD	0		sec	0	20	0	Communication Time Out Detection
P3 - 05			■	CMM	0x0001			0x0000	0x0001	0x0000	Communication Selection
P3 - 06			■	SDI	0x0000			0x0000	0x01FF	0x0000	Digital Input Communication Function
P3 - 07				CDT	0		1ms	0	1000	0	Communication Response Delay Time
P3 - 08			■	MNS	0x0000			0x0000	0x00F3	0x0000	Monitor Mode
P3 - 09	★	▲	■		0x0000			0x0000	0x0000	0x0000	Reserved
P3 - 10					0			0	20	0	Reserved
P3 - 11					0			0	1000	0	Reserved

P0 - XX | P1 - XX | P2 - XX | P3 - XX | P4 - XX

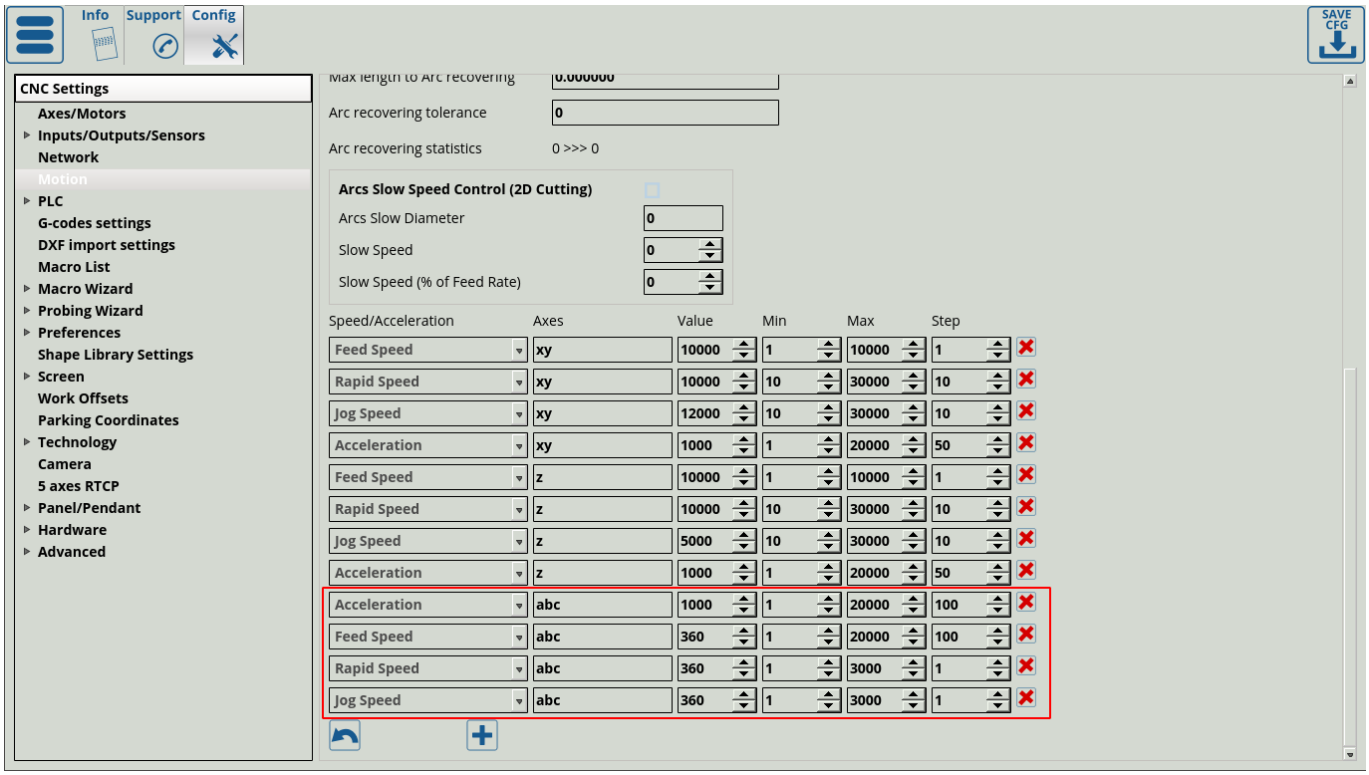
V 1.021				Code	Parameter value	*	Unit	Min	Max	Default	Description
P4 - 00	★			ASH1	0x00000011			0x00000000	0x0000FFFF	0x00000000	Fault Record (N)
P4 - 01	★			ASH2	0x00000003			0x00000000	0x0000FFFF	0x00000000	Fault Record (N-1)
P4 - 02	★			ASH3	0x00000011			0x00000000	0x0000FFFF	0x00000000	Fault Record (N-2)
P4 - 03	★			ASH4	0x00000022			0x00000000	0x0000FFFF	0x00000000	Fault Record (N-3)
P4 - 04	★			ASH5	0x00000011			0x00000000	0x0000FFFF	0x00000000	Fault Record (N-4)
P4 - 05				JOG	3000		rpm	0	5000	20	JOG Operation
P4 - 06			■	FOT	0x0000			0x0000	0x003F	0x0000	Force Output Control
P4 - 07			■	ITST	0x0000			0x0000	0x01FF	0x0000	Input Status or Force Input Control
P4 - 08	★		■	PKEY	0x0000			0x0000	0x001F	0x0000	Digital Keypad Input of Servo Drive
P4 - 09	★		■	MOT	0x002A			0x0000	0x003F	0x0000	Output Status Display
P4 - 10		▲	■	CEN	0			0	6	0	Adjustment Function
P4 - 11				SOF1	16588			0	32767	16352	Analog Speed Input Drift Adjustment 1
P4 - 12				SOF2	16629			0	32767	16352	Analog Speed Input Drift Adjustment 2
P4 - 13			■	TOF1	16352			0	32767	16352	Analog Torque Drift Adjustment 1
P4 - 14				TOF2	16623			0	32767	16352	Analog Torque Drift Adjustment 2
P4 - 15				COF1	17063			0	32767	16352	Current Detector Drift Adjustment (V1 phase)
P4 - 16				COF2	16448			0	32767	16352	Current Detector Drift Adjustment (V2 phase)
P4 - 17				COF3	16074			0	32767	16352	Current Detector Drift Adjustment (W2 phase)
P4 - 18				COF4	16276			0	32767	16352	Current Detector Drift Adjustment (W2 phase)
P4 - 19				TIGB	1			1	3	2	IGBT NTC Calibration
P4 - 20				DOF1	0		mV	-800	800	0	Analog Monitor Output Drift Adjustment (CH1)
P4 - 21				DOF2	0		mV	-800	800	0	Analog Monitor Output Drift Adjustment (CH2)
P4 - 22				SAO	0		mV	-5000	5000	0	Analog Speed Input Offset
P4 - 23				TAO	0		mV	-5000	5000	0	Analog Torque Input Offset
P4 - 24				LVL	160			140	190	160	Low-voltage Alarm Detection Level

Next, within the myCNC software, to the Axes/Motors config section andenable the **4-axis configuration** (1), check the **“A axis**” box (2), and then set the value **500** in the field next to it. Set

the value of the maximum speed (3) (for better results, limit it to 360 rpm rather than a higher value). After the settings have been entered, press the Save Cfg button in the upper right corner.



Go into the Motion tab and enter the parameters for “abc”. The acceleration value can be left at 1000, while the feed, positioning and manual speeds should be set to 360.



Click the Save Cfg button and restart the program.

After these settings, the rotary axis should be enabled. You can check this by pressing the manual jog movement buttons for the A axis on the main screen.

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