



ASCARVA 3

Installation Guide V1.0

Shenzhen Titan International Development Technology Co., Ltd.1



- Thank you for choosing our product and placing your trust in our brand. We are committed to offering top-tier quality products and unparalleled customer service. Your support is invaluable to us.

- To ensure you get the most out of your product, we offer a range of support solutions: Your ACMER machine arrives with an in-depth manual, but we also understand the value of visual learning. Scan the QR code below to access video and document tutorials tailored to your specific machine model. Stay connected with ACMER for expert guidance:



Tutorial Video

- For ongoing updates and insights, don't hesitate to engage with us directly or follow our social media channels. Stay informed about the latest news, expert advice, and engaging events.



Social Media

- For personalized assistance, our after-sales service team is just an email away. Reach out to us at support@acmerlaser.com for any queries or concerns you may have.
- We're here to help you make the most of your ACMER experience.
- Thank you again for your trust and support.

Safety Guide	02
Specifications	03
Package List	04
Package Contents	06
Assembly Instruction	08
Wiring Diagrams	15
After-Sales Service	20

Safety Guide



Please be careful when using your CNC machine. This machine is an electrical device with moving parts and dangerous areas.

- The CNC Machine is for Indoor Use Only.
- You must be 18 years or older to operate this machine, unless supervised by a knowledgeable adult familiar with the machine.
- Wear the proper Personal Protection Equipment (Safety Glasses etc.).
- Always place the CNC Machine on a stable surface.
- The CNC Machine is supplied with a Switchable Power Supply 220VAC or 110VAC. Never use a different power supply; it may cause malfunctions or damage to the machine.
- The **ASCARVA 3** utilizes a high amp power supply. It is recommended that you do not plug the CNC Router into an extension cord or power strip as it may damage the machine. (Need final confirmation)
- Ensure the Emergency stop button is easily accessible at all times. Never disassemble the Power Supply or Electrical Components. This will VOID the warranty.
- DO NOT TOUCH the machine spindle, or place any body part near the working area when the machine is operating. Serious injury may occur.
- DO NOT leave the machine unattended while it's operating.
- Ensure your CNC Machine is in a well-ventilated area. Some Materials may discharge smoke or fumes during operation.

Specifications

Work Area	300x180x78mm (11.81x7.08x3.07inch)
Drive Type	Chrome Plated Shaft & T-Shaped Screw Rod
Control Board	3 Axis V5.2 GRBL 1.1f
Stepper Motor	Nema17 42x48mm
Stepper Motor Drive	A4988
Spindle	φ52mm 500W 12000RPM
Power	48V 500W
Max Motion Speed	5000mm/min
Max Process Speed	2000mm/min
Max Accelerated Speed	200mm/s ²
Accuracy	±0.1mm
Limit Switch	Yes (X1, X2, Y1, Y2, Z1, Z2)
E-Stop	Yes
Z-Probe	Yes
Software	UGS
Laser	Support laser module with 40mm width
Operating System	Windows XP/7/8/10 & Linux & MAC OS
Overall machine size	475x405x374mm (18.70x15.94x14.72inch)
Machine Weight	11kg

Package List

<p>1. Y-axis Module 1pc</p> 	<p>2. XZ-axis Module 1pc</p> 	<p>3. Spindle Motor 1pc</p> 	<p>4. Control Board 1pc</p> 	<p>5. Power 1pc</p> 
<p>6. Rubber Feet 4pcs</p> 	<p>7. Limit switches 2pcs</p> 	<p>8. Spindle clamp 1pc</p> 	<p>9. Chuck 1pc</p> 	<p>10. Power bracket 2pcs</p> 
<p>11. Emergency stop switch 1pc</p> 	<p>12. Screw with washer M5-30 12pcs</p> 	<p>13. Screw M5-10 4pcs</p> 	<p>14. Pan head screw M4-8 4pcs</p> 	<p>15. Pan head screw M4-6 4pcs</p> 
<p>16. Pan head screw M2-10 4pcs</p> 	<p>17. Flat head screwdriver 1pc</p> 	<p>18. Cable ties</p> 	<p>19. Wire trough 1pc</p> 	<p>20. Wrenches</p> 

<p>21. Tool setting instrument 1pc</p> 	<p>22. Power cord 1pc</p> 	<p>23. USB data cable 1pc</p> 	<p>24. Motor cable 3pcs</p> 	<p>25. Limit line 6pcs</p> 
<p>26. Spindle cord 1pc</p> 	<p>27. Lube 1pc</p> 	<p>28. 60° Router bit* 1 set</p> 	<p>29. Wire clamp 10pcs</p> 	<p>30. Fixture 4pcs</p> 
<p>31. USB driver 1pc</p> 	<p>32. Braided tube 1pc</p> 	<p>33. Brush 1pc</p> 	<p>34. Steel ruler 1pc</p> 	

Package Contents



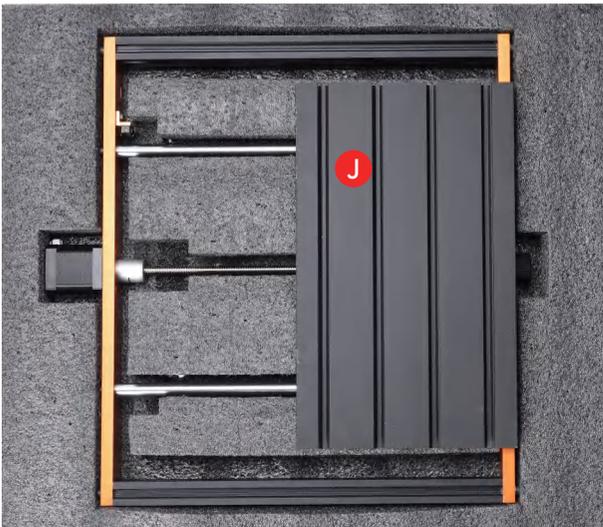
- A** Control Board
Tool box
Connection guide for offline screen
- B** User manual



- C** Spindle
- D** Steel ruler, Power supply
- E** Data Cable
- F** Auxiliary tools, Power cord, Screwdriver,
Brush, Emergency stop switch, Chuck, Fixture,
Spindle line



- ① G X Z axis module
- ① H Limit wire, motor wire, winding tube
- ① I Fixture



- ① J Y axis module

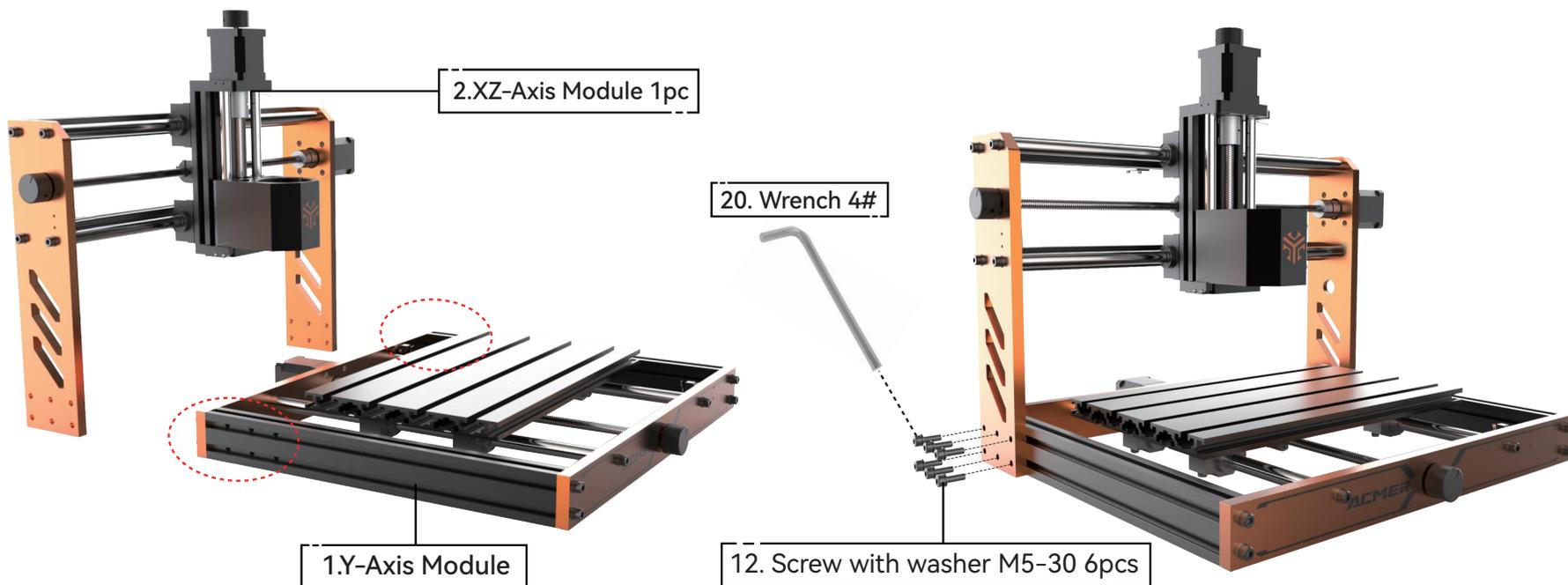
Assembly Instruction

Step 1 X , Y , Z Module Assembly

Parts to be used	1.Y-Axis Module 1pc	2.XZ-Axis Module 1pc	12.Screw with washer M5-30 12pcs	20.Wrench 4#
				

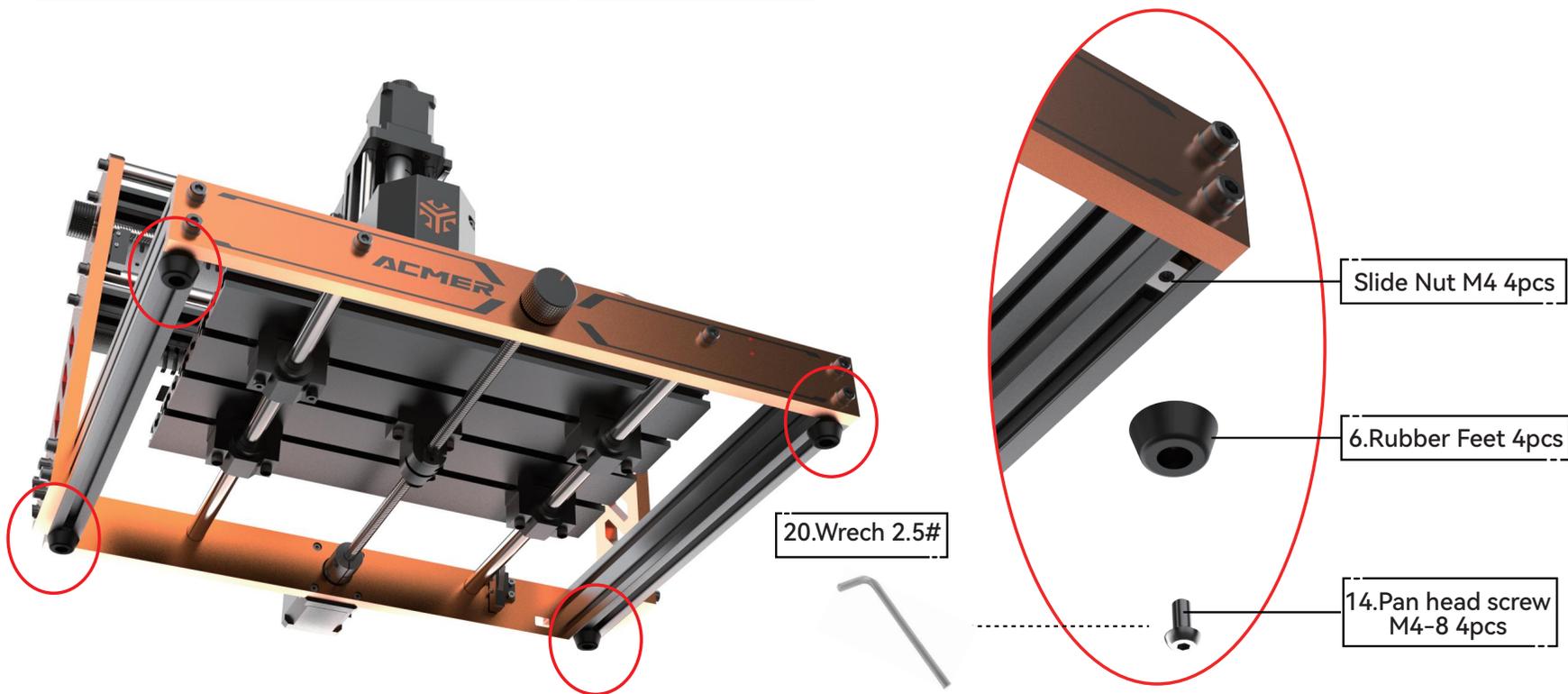
Tip: The bottom surface of the aluminum plate of the XZ-axis module is flush with the bottom surface of the aluminum profile of the Y-axis module.

Tip: Both sides need to be tightened with a wrench.



Step 2 Install Robber Feet

Parts to be used	6.Rubber Feet 4pcs	14.Pan head screw M4-8 4pcs	20.Wrench 2.5# 1pc
			

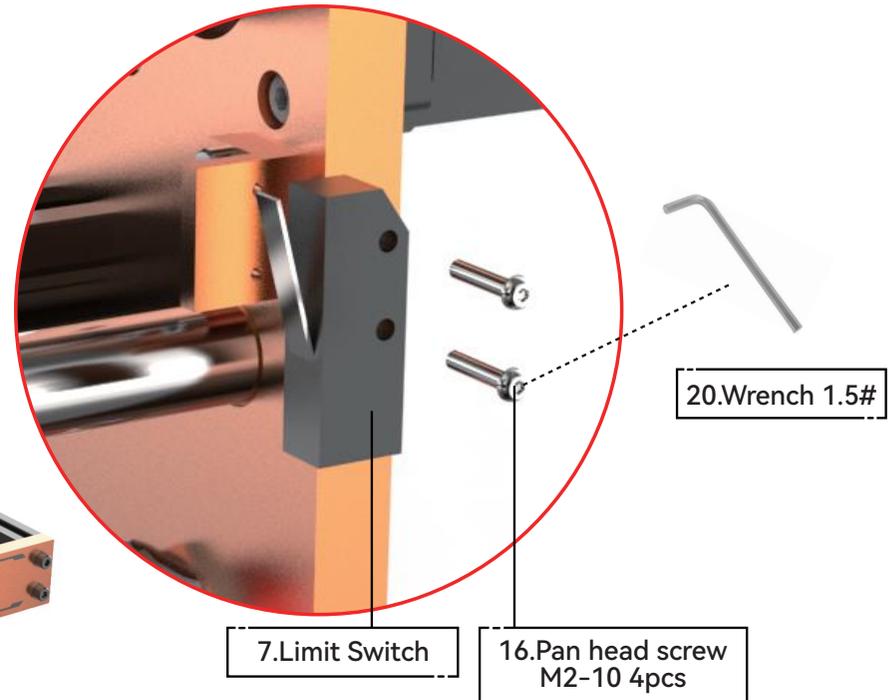


Step 3 Install the X-axis Limit Switch

Parts to be used	7.Limit Switch 2pcs	16.Pan head screw M2-10 4pcs	20.Wrench 1.5#
			



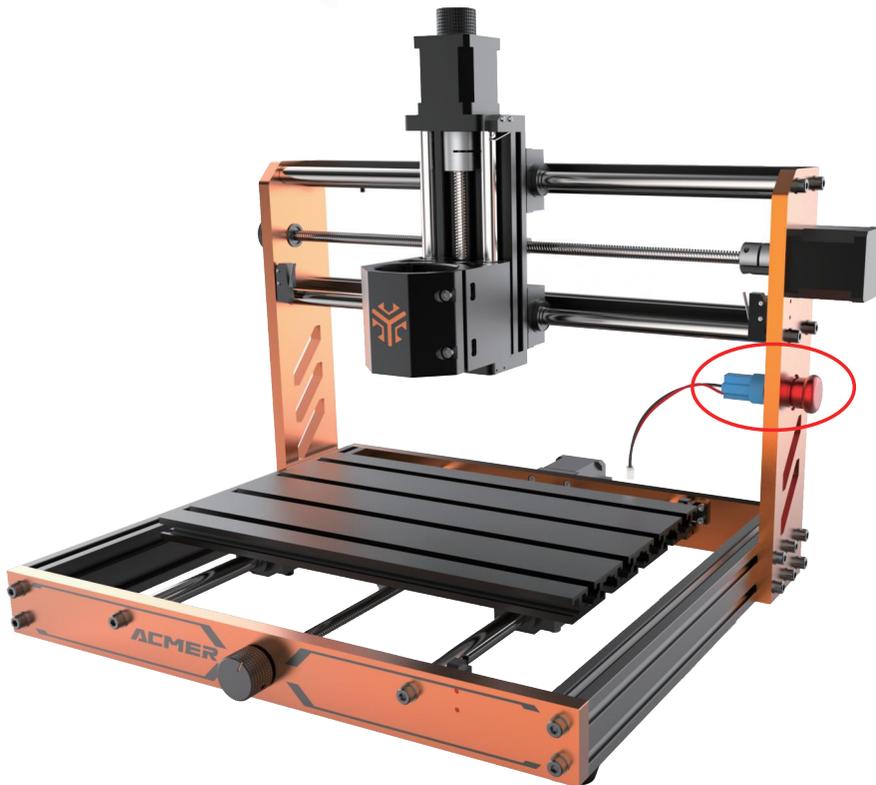
Tip: Limit switch socket position downward.



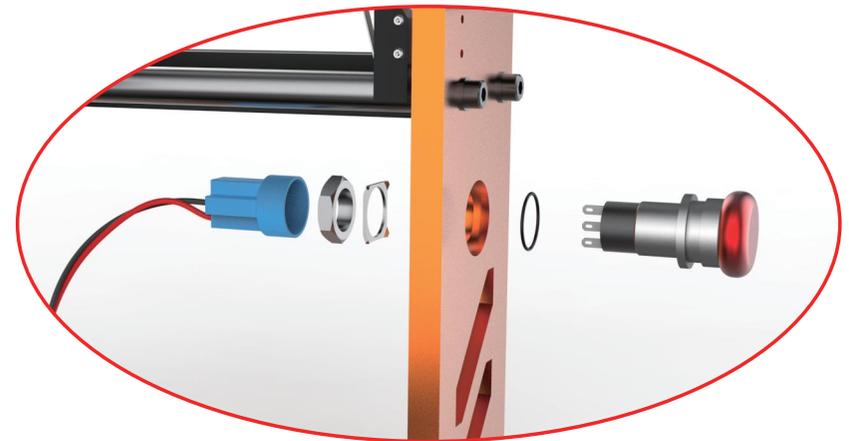
Step 4 Install E-stop Switch

Parts to be used

12.E-stop Switch



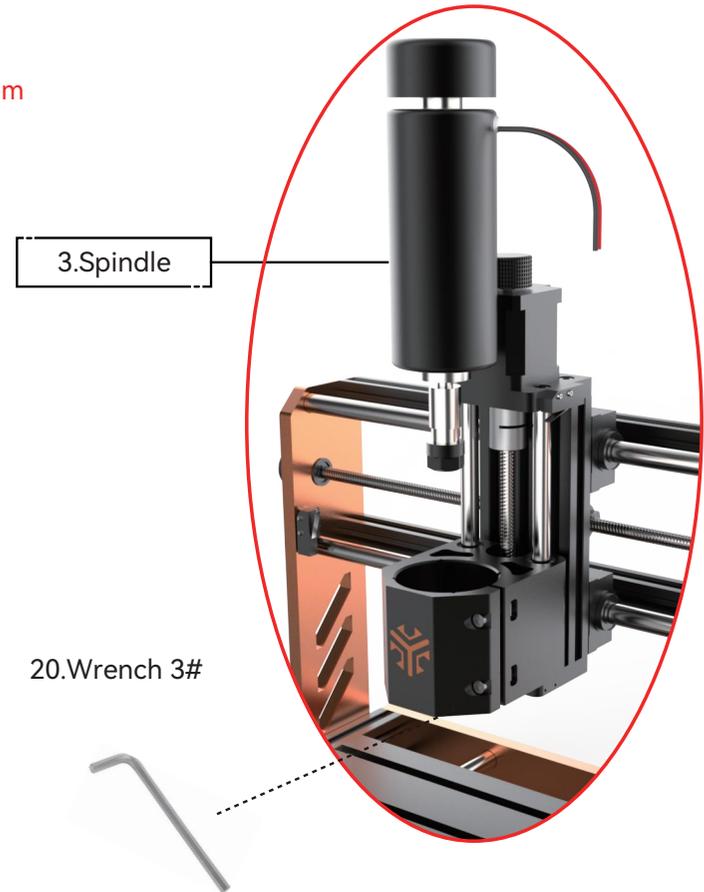
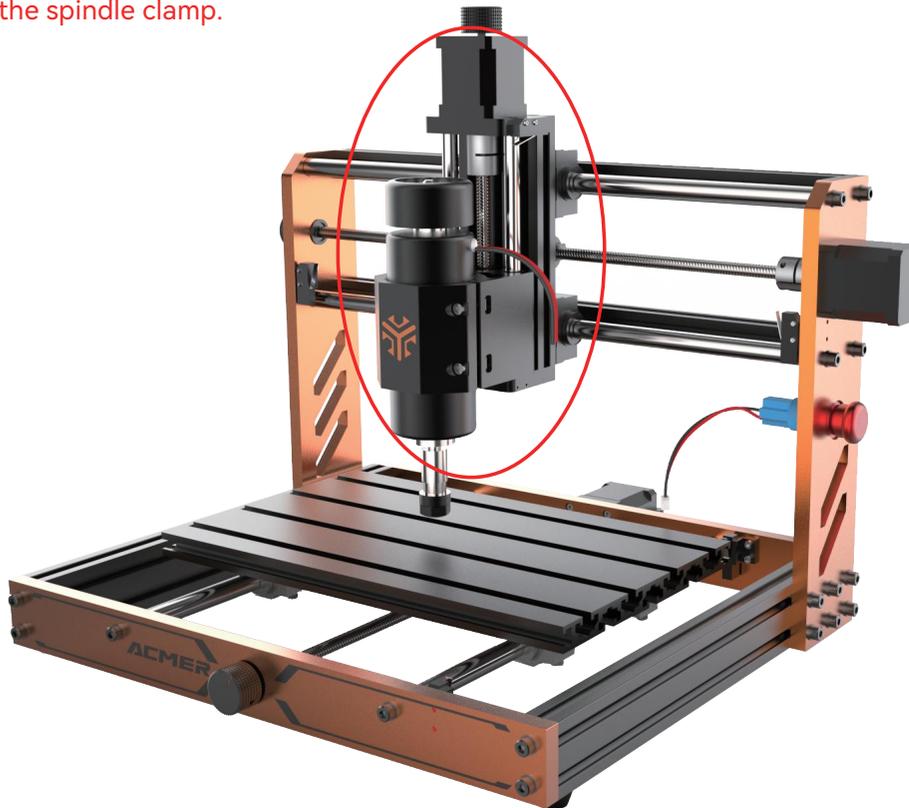
Tip: The emergency stop switch needs to be disassembled and then installed in the corresponding position.



Step 5 Install the Spindle Motor

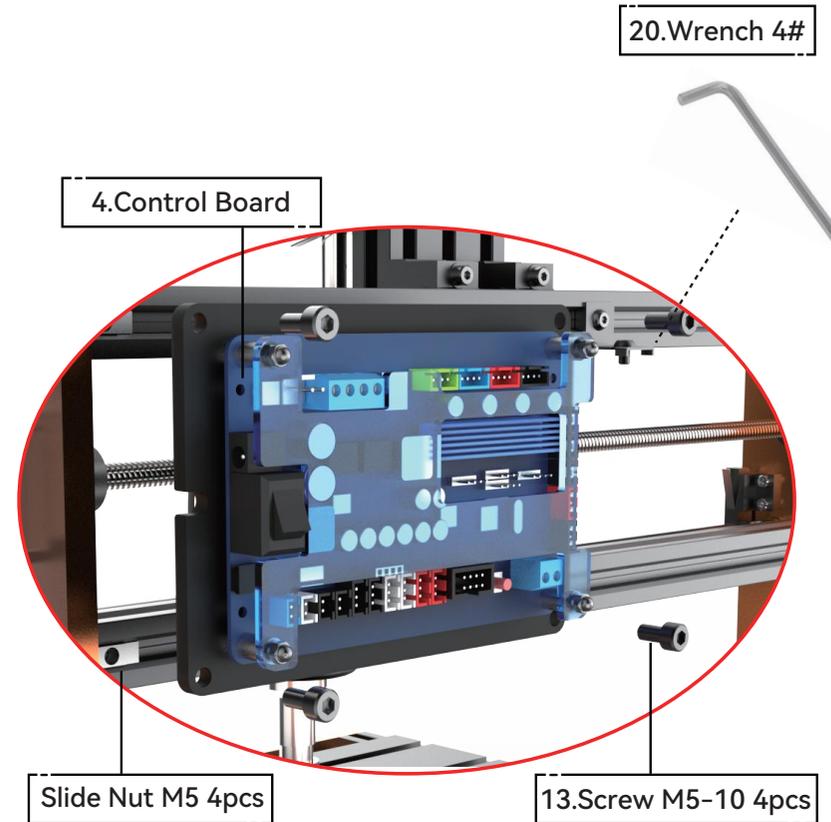
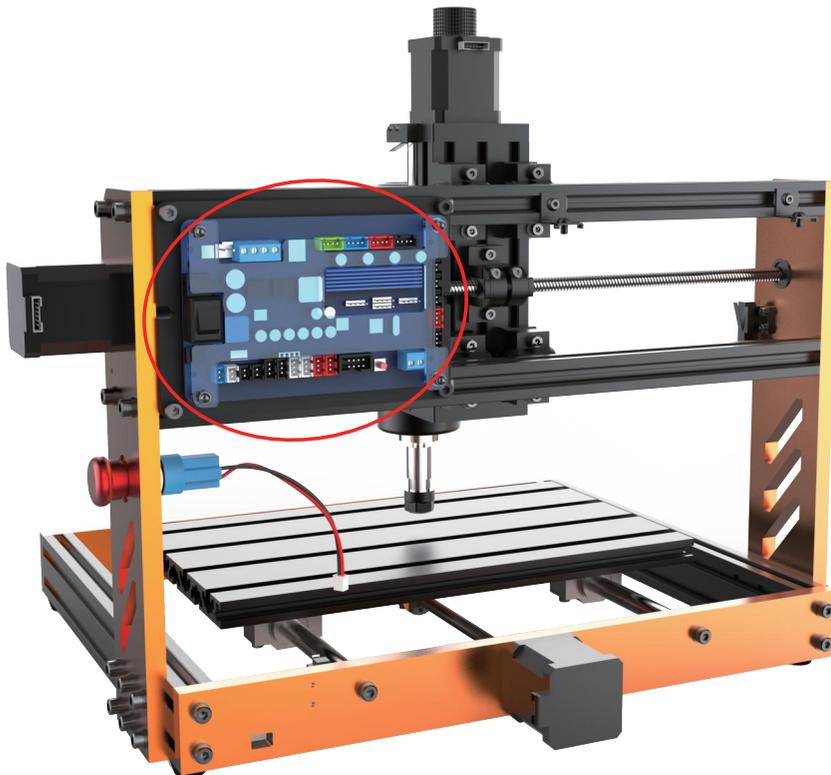
Parts to be used	3.Spindle Motor	20.Wrench 3#
		

Tip: The optimal installation dimension is that the spindle protrudes 25mm from the spindle clamp.



Step 6 Install Control Board

Parts to be used	4. Control Board	13. Screw M5-10 4pcs	20. Wrench 4#
			



Step 7 Install the Power Supply

Parts to be used	5.Power	10.Power Bracket 2pcs	15.Pan head screw M4-6 4pcs	20.Wrench 2.5#
				

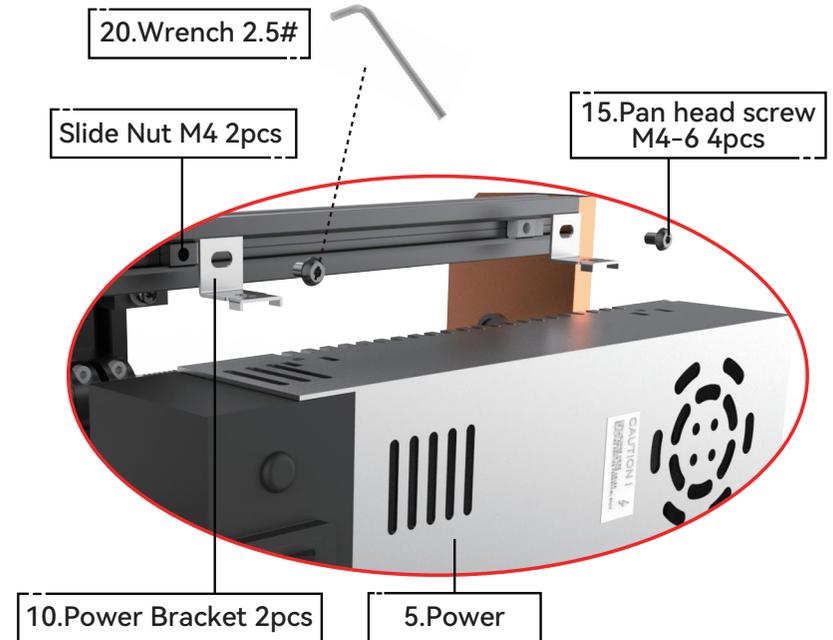
Select the correct input voltage based on your location before power on the machine.

Input voltage switch is at the bottom of the controller box.

For 220-240V areas, flip the switch to the right side, displayed as "220"

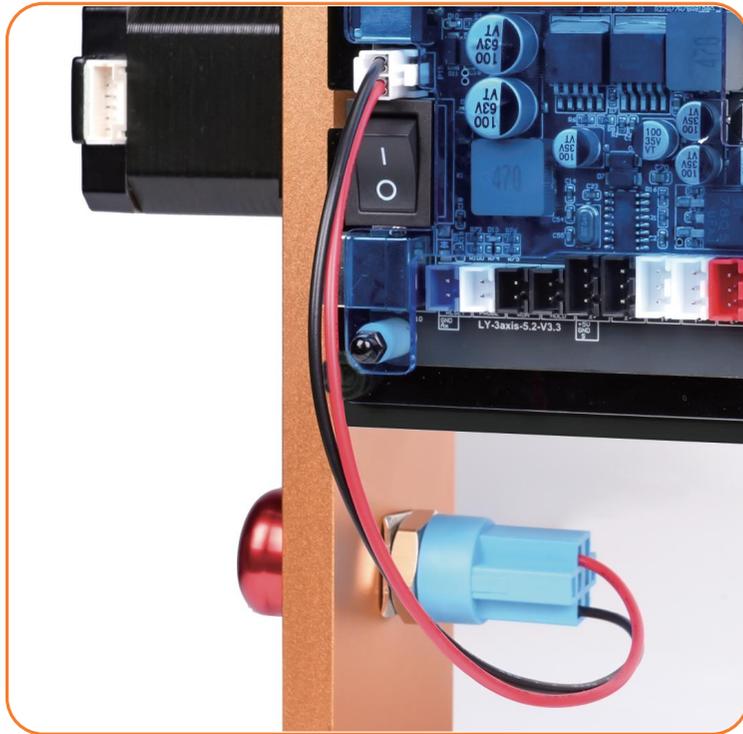
For 110V areas, flip the switch to the left side, displayed as "110"

!!! Warning:
Wrong input voltage will burn out the power supply.
Check the input voltage first after receiving the machine.



Wiring Diagrams

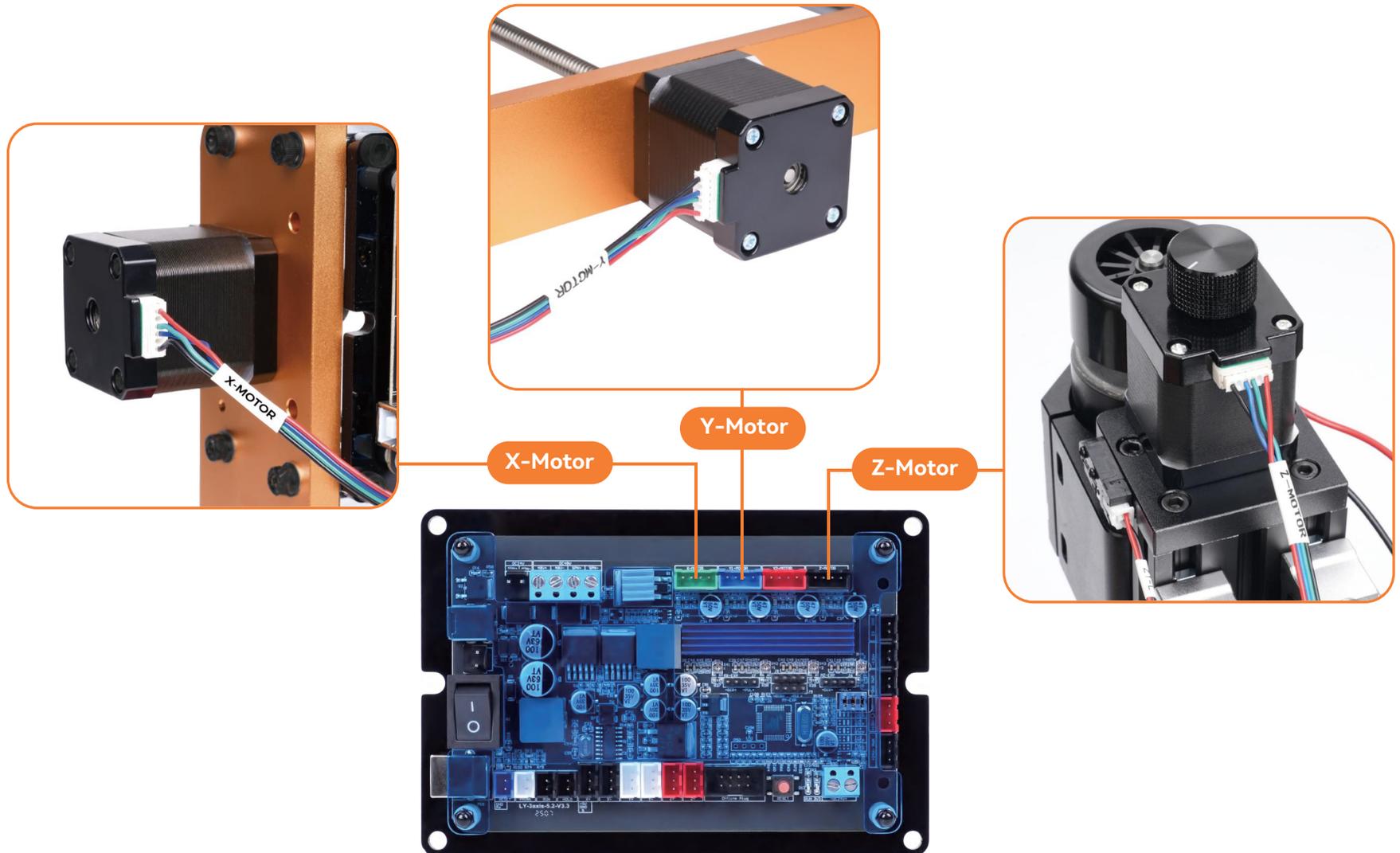
Step 1 Emergency Stop Switch Wiring Diagrams



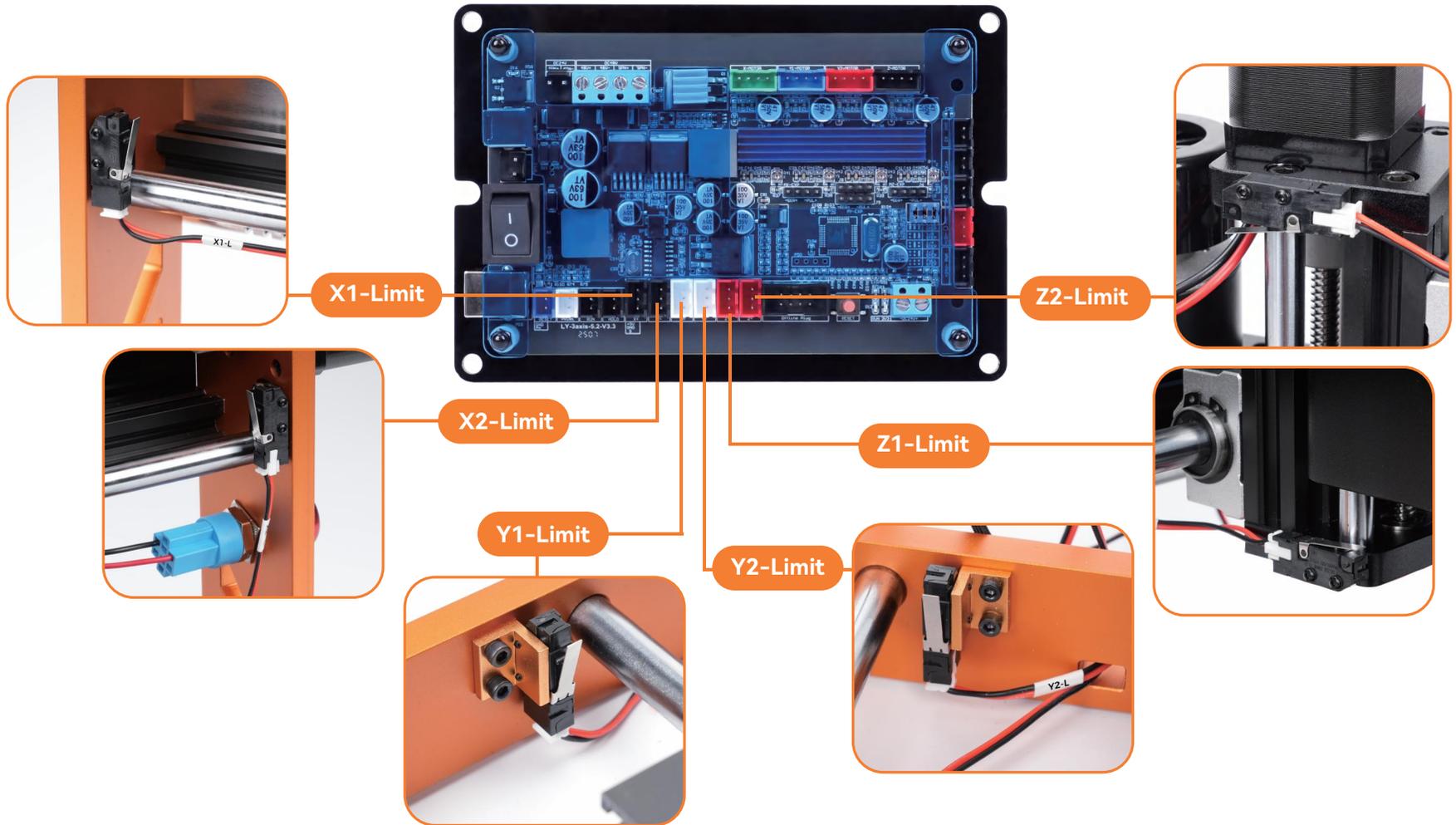
E-stop Switch



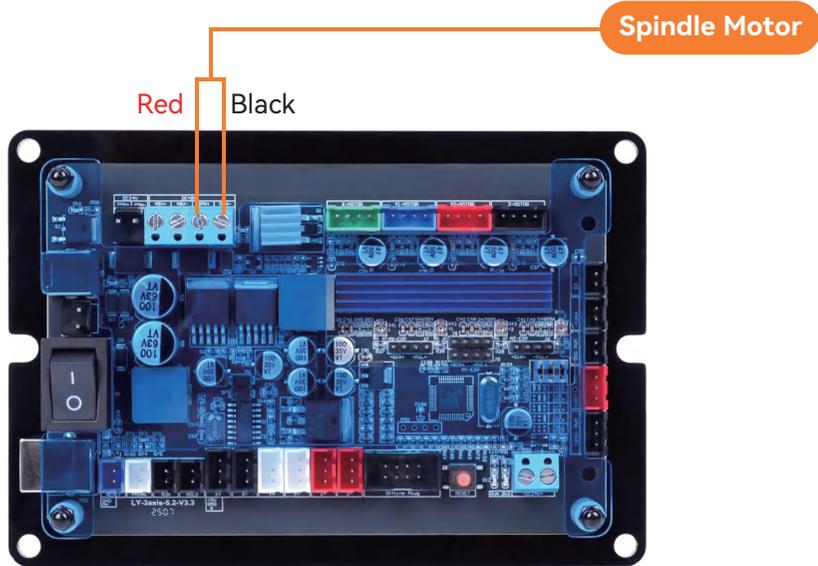
Step 2 X , Y & Z Stepper Motors Wiring Diagrams



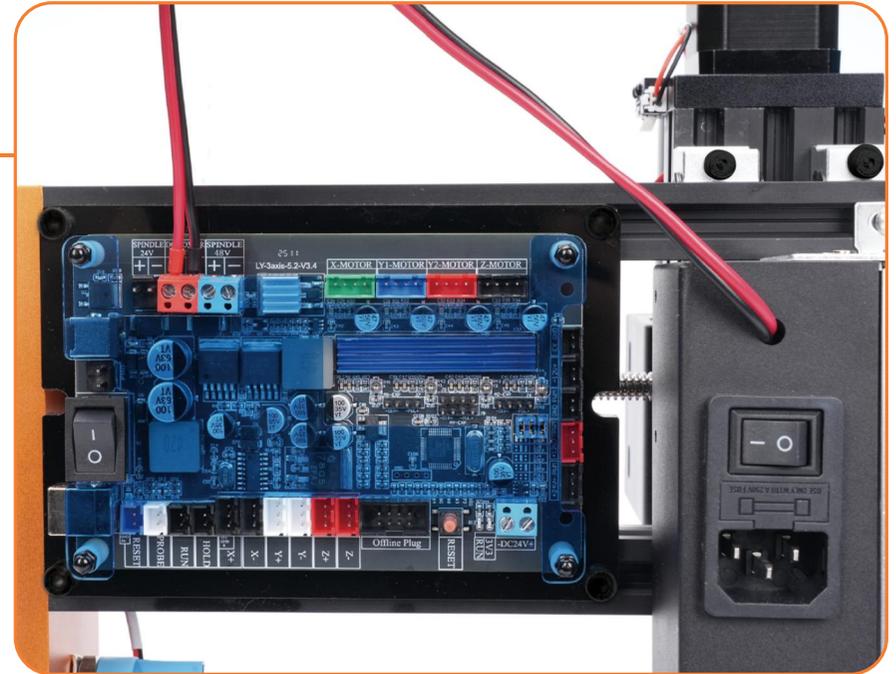
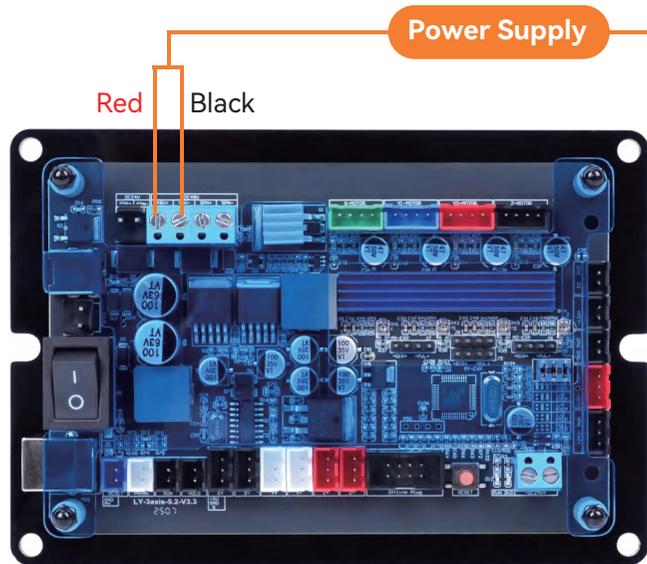
Step 3 X , Y , Z Limit Switches Wiring Diagrams



Step 4 Spindle Wiring Diagram



Step 5 Power Supply Wiring Diagram



After-Sales Service



To ensure high-quality after-sales support, we recommend visiting our official website ([acmerlaser.com](https://www.acmerlaser.com)) for detailed information on after-sales and warranty.



If you have any questions or need further assistance, please feel free to contact us via email at support@acmerlaser.com. Our support team will provide you with prompt assistance to ensure timely resolution of your issues.



<https://acmerlaser.com>

Shenzhen Titan International Development Technology Co., Ltd.
ADD: 501, Building 1, No. 6 Zhongyuguan Road, Yousong Community,
Longhua Street, Longhua District, Shenzhen, Guangdong, China



CONTACT US