Thank you for choosing our Handheld Welding Wire Feed System. This user manual provides you with important safety, operation,maintenance and other information. Therefore, please read this user manual carefully before using this product.

To ensure safe operation and optimum product operation, please observe the following cautions and warnings, as well as other information in this manual.

1. Overview

This manual contains a general description of the basic installation, factory settings, operation, use, and service of this welding wire feeder.

Super welding wire feeding system is a wire feeding system launched in 2019. The product covers the self-developed control system, and is equipped with the function of drawing back and feeding wire. The product can be adapted to various handheld welding wire feeding systems.

1.1 Operating environment and parameters

Rated input	220±5% 50/60hz
Maximum power and current	60W/2.5A
Rated wire feed speed	15~600cm/min
Applicable welding wire	0.8/1.0/1.2/1.6mm（Standard）
	2.0/2.5mm （Customized）
Suitable for welding wire disc	Shaft diameter: MIN50mm
	Outside diameter: MAX300mm
	Width : MAX105mm
	Weight : ＜20kg
Net weight of product	13.2kg
Product size	560mm*250mm*350mm
Product name	SUP-AMF-A

1Ensure reliable grounding before power supply of UNK1.

2UNK1 wire feeding wheels are matched with the wire warps and correspond to the wire feeding pipes

TheUNK1 wire feed pipe shall not be bent

2.Installation

2.1Definition of circuit wiring

Two plugs are provided at the tail of the complete machine,which are defined as follows according to different models, and are directly connected to the control box.

2.1. 1 conventional wire feeder wiring

Interface	Definition	Remark	Remark
Two-core plug	1.Wire feeder signal line (start)	Short circuit is wire feeding, connect to pin 5/6 of wire feeding interface II of the control box	Conventional wire feeder
	2.Wire feeder signal line (GND)		
Three-core plug	1.Wire feeder power supply live wire (L)	Power line, 220V input	
	2.Power supply zero line of wire feeder (N)		
	3.Wire feeder power supply ground wire (PE)		

2.1. 2 Wire feeder wiring of process library

Interface	Definition	Remark	Remark
Three-core plug	1.Wire feeder power supply live wire (L)	Power line, 220V input	Process wire feeder
	2.Power supply zero line of wire feeder (N)		
	3.Wire feeder power supply ground wire (PE)		
Six-wire plug	1.Wire feeder signal line (start)	Short circuit is wire feeding, connect to pin 5/6 of wire feeding interface II of the control box	
	2.Wire feeder signal line (GND)		
	3.Grounding wire (PE)	Connect to the earth	
	4.485GND	485 signal line, connected to the signal interface IV of the control box	
	5.485TXD		
	6.485RXD		

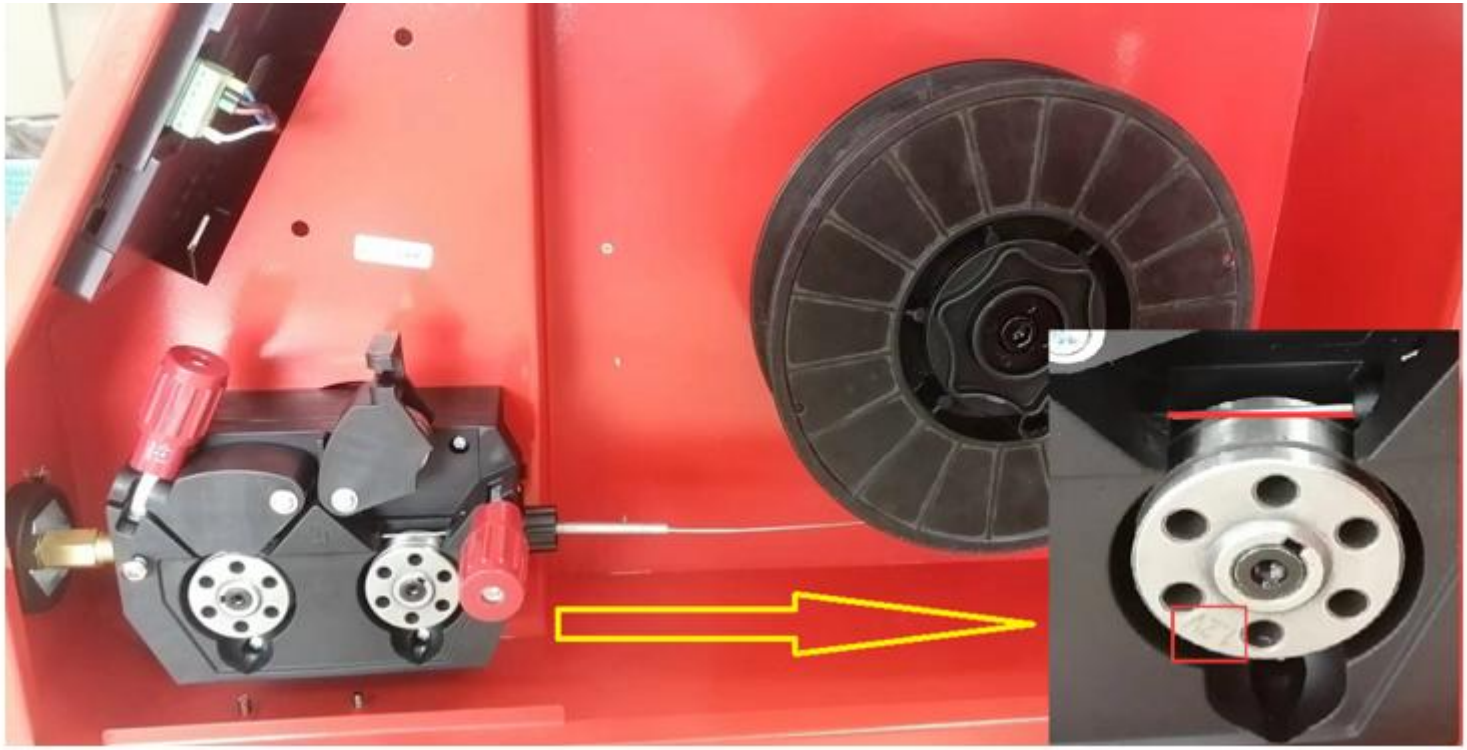
Except for customized models, all models have the same power supply, 220V input (support 110V input, need to replace the switching power supply), and the wire feeding signal is a passive conduction signal. Please note that the main control board of individual models distinguishes the wire feeder signal ±, please connect according to the line mark

Installation of the welding wire disc/wire feeding wheel of 2.2

① It is forbidden to use flux-cored wire, and the selection of welding wire shall be consistent with the material to be welded.

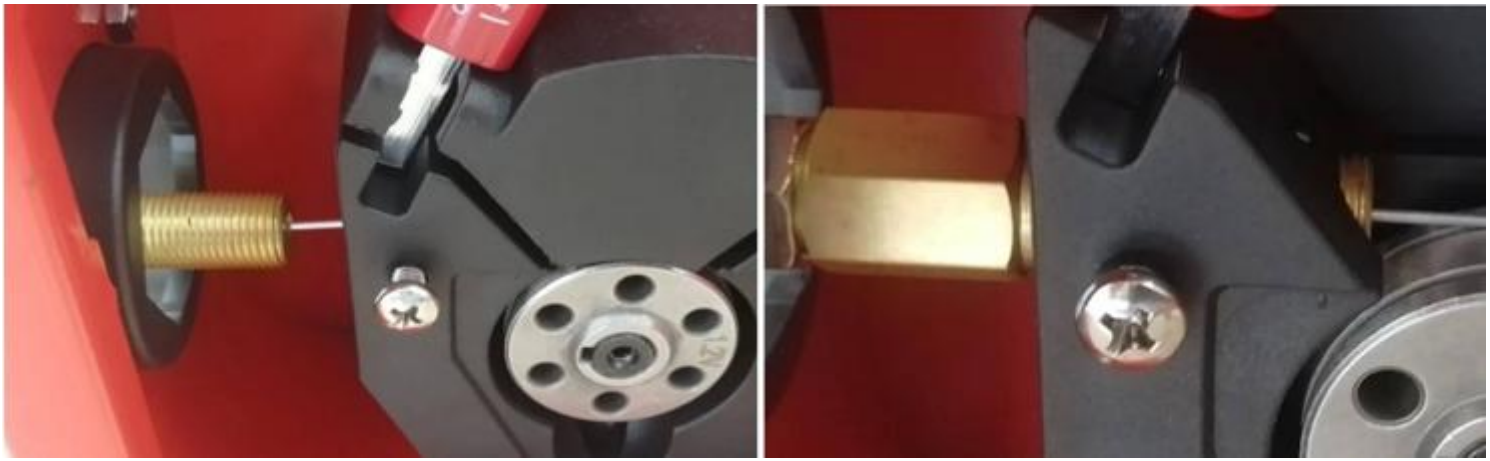
② There are two wire feeding wheels in total. The two sides are of different models, corresponding to different core diameters. Please be sure to install them accordingly. If 1.2 welding wire is installed, the side of the wire feeding wheel marked with 1.2 is outside.

③ During installation, be sure to clamp the welding wire in the slot and then clamp it.



2.3.Installation of wire feed pipe

2.3.1. Loosen the locking screw of the wire feeding tube, insert it into the appropriate position and then lock it.



3.2Gun head end

3.2.1 After the above operations are linked, prepare the fittings at the nose end and assemble them

3.2.Please note that [connection block] distinguishes models, that is, different models use different connection blocks, and other accessories are the same.

3. Software operation

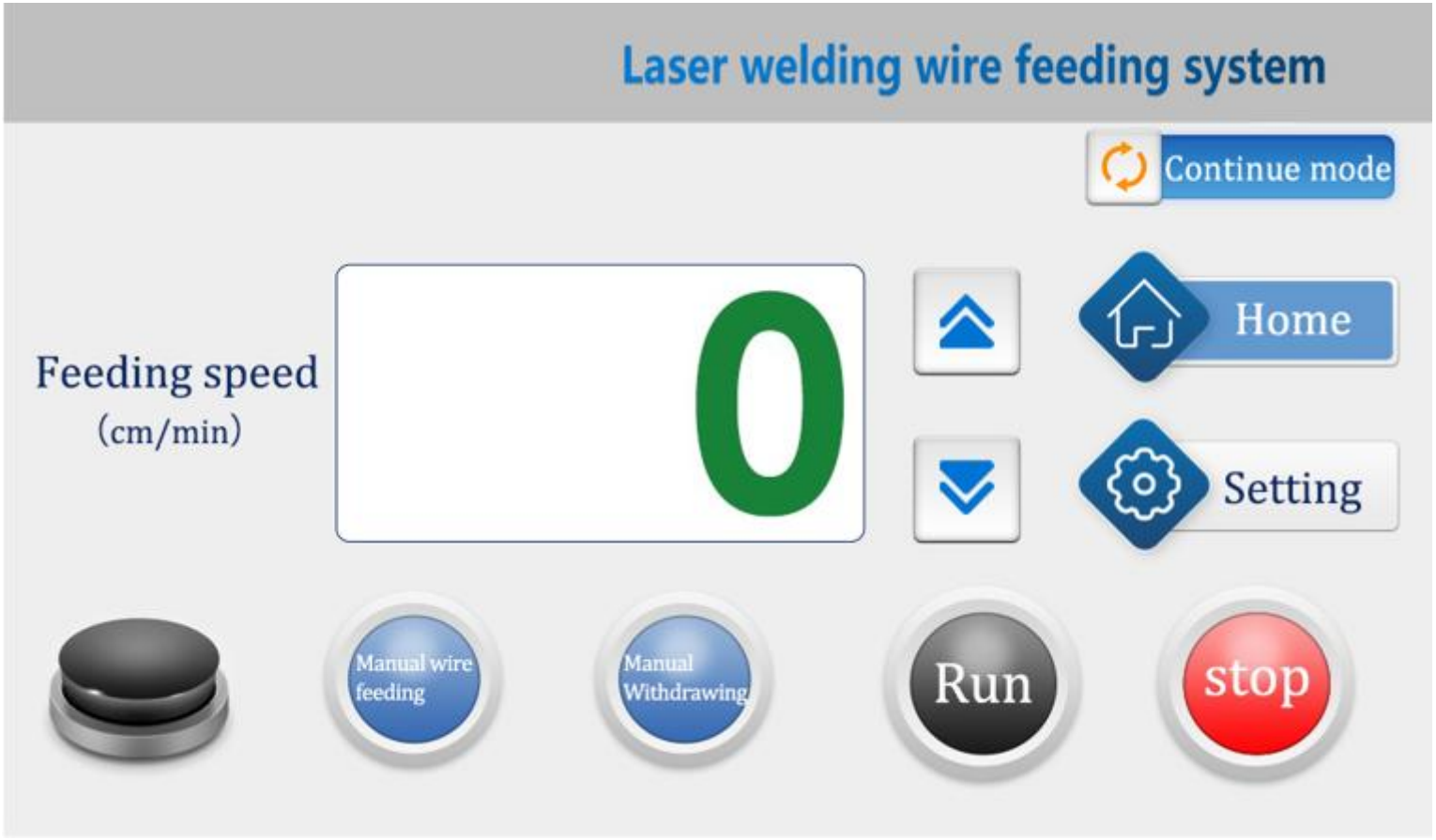


Figure 1-1 Continuous Mode-Home

The1. "Continuous Mode" indicates that the current wire feeding mode is"Continuous Mode". Click the button in the upper right corner to switch to the "Pulse Mode".

The2. "Wire Feed Speed" controls how fast the wire is fed during welding. The range is 15 ~ 600 cm/min, which can be directly input by the keyboard by clicking the "number", or can be quickly adjusted by the"arrow". Note: "Wire feeding speed" is not equal to"manual wire feeding speed".

The3. "Manual Wire Feeding" controls the speed of the motor during manual wire feeding, which is usually used for daily debugging of the equipment. Range: 15 ~ 600 cm/min. Press "Manual wire feeding"continuously to change from blue to green. The motor feeds wire continuously at"Manual wire feeding speed". Release the button to stop wire feeding.

The4. "Manual Withdrawal" controls the speed of the motor during manual withdrawal, which is usually used for daily commissioning of the equipment.Range: 15 ~ 600 cm/min. Keep pressing the "Manual Withdrawal" button to change from blue to green. The motor continues to withdraw at the"Manual Withdrawal Speed". Release the button to stop withdrawing.

The5. "run" and "stop" controls the wire feeder to switch working status. Click "Run" to change from black to green and"Stop" to black. At this time, it is in the "running"state, and the motor can feed wire normally. Click "Stop" to change from black to red and "Run" to black. At this time, it is in the"stop" state, the motor stops working, and no wire feeding or withdrawal can be carried out.

The6. "wire feed indicator" shows the wire feed status while welding.When the welding gun trigger wire feeder is pressed for wire feeding, the"indicator light" changes from black to green, indicating that the wire feeder is operating normally. Note: The "indicator light" will display green only during welding. "Manual wire feeding" and"manual withdrawal" will not change the status of the "indicator light".

7."Home". Currently, the screen displays the home page of the wire feeder system. Clicking is invalid.

8."Settings", click to switch to the "Continuous Mode Settings Page".

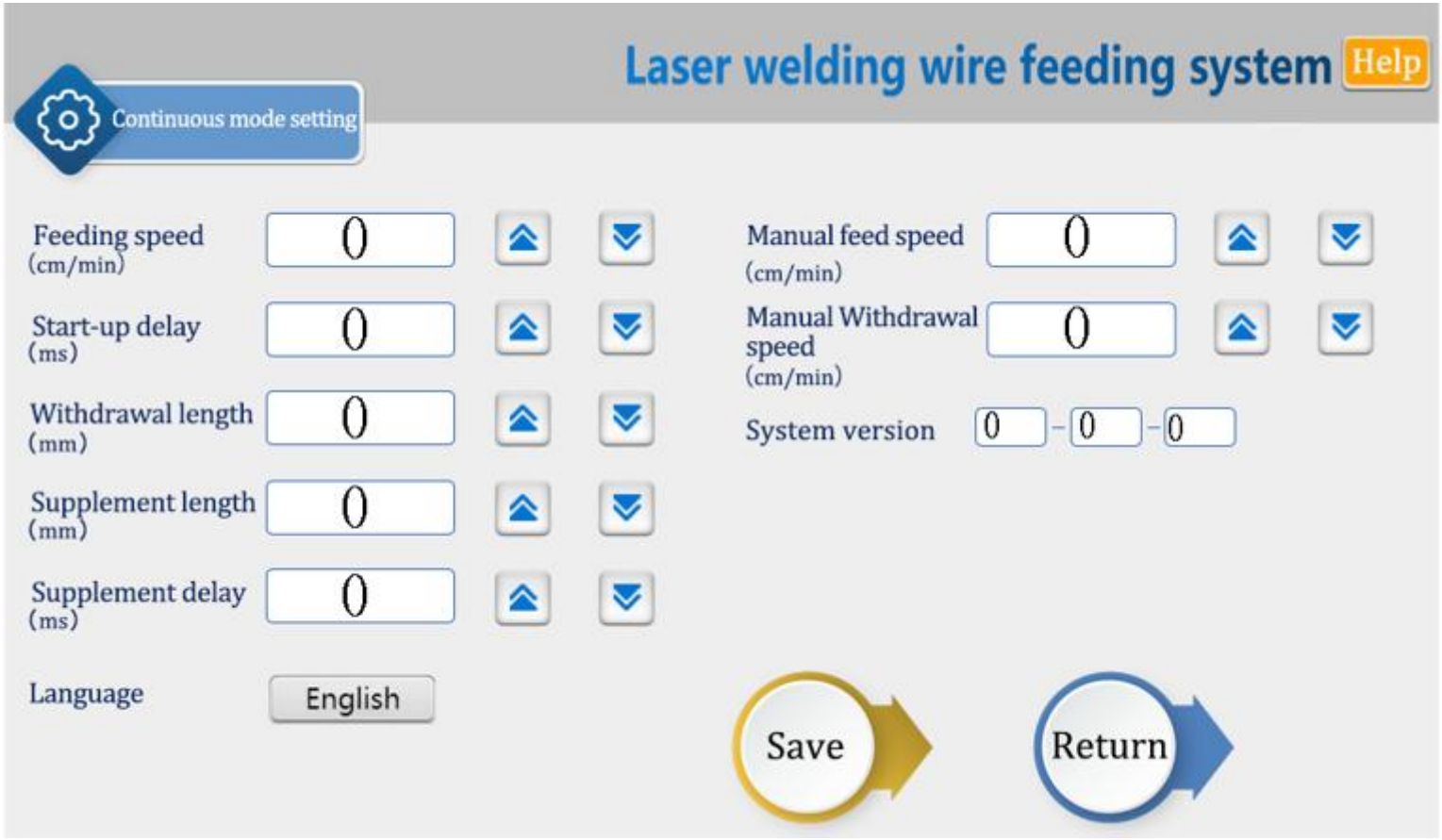


Figure 1-2 Continuous Mode-Setup

1. "Continuous mode setting" indicates that the setting page of the continuous mode of the wire feeder system is displayed on the current screen, and it isinvalid to click.

2. "Wire Feed Speed" is the same as the "Wire Feed Speed"on the first page. Control the speed of wire feeding during welding. The range is 15 ~ 600 cm/min, which can be directly input by the keyboard by clicking the"number", or can be quickly adjusted by the "arrow". Note:All parameters on this page can be adjusted by directly clicking the value or clicking the "arrow", the same below.

3. "Start Delay" controls the amount of time the wire feeder delays starting after the gun trigger is pressed. Range 0 ~ 2000 ms, usually set to 0.For example, if the start delay is set to 1000ms, press the trigger of the welding gun and wait for 1s to start wire feeding.

4. "Withdrawal Length" controls the length of broken wire that the wire feeder withdraws when the wire is broken, and is used to help break thewire. The range is 0 ~ 100mm, usually set to 10, which can be increased appropriately according to the thickness of the field welding wire and the length of the wire feeding pipe.

5. 'wire supplement length' controls the length of the compensate wire feeder after the wire feeder is drawn back when the wire is broken, and is used for compensate the influence of the 'drawn back length' so as to keep the consistency of joints during next welding. The range is 0 ~ 100mm, which is consistent with the "pullback length" in principle. If the resistance of the wire feeding pipe on site is large, it can also be larger than the"pullback length" appropriately.

6. "wire supplement delay" controls the interval time length between the wire feeder compensating the wire feeding and drawing back the broken wire when the wire is broken, which is used to prevent the welding wire from adhering to the welding seam for the second time due to too early compensation of wire feeding, so as to improve the effect of broken wire. Range 0 ~ 2000 ms.Usually set to 0.

7."Language" to display the language text of the current system. Click it to switch to other languages in the "Language Bar". Note: The standard language is simplified Chinese, traditional Chinese, English, Korean,Japanese, Russian, German, French and Latin. If you have other language requirements, please contact our company.

The

8. "Manual Wire Feeding Speed" controls the speed of "Manual Wire Feeding" on the homepage, which is used for daily equipment debugging. Range 15 ~ 600 cm/min. Usually set to 300 cm/min.

9. "Manual Withdrawal Speed" controls the speed of "Manual Withdrawal" on the homepage, which is used for daily equipment debugging.Range 15 ~ 600 cm/min. Usually set to 300 cm/min.

10. "System Version" displays the version number of the control system of the wire feeder. Where, "220" indicates the system hardware partial version, "601" indicates the system software partial version,and "410" indicates system screen partial version. Note: The combination of each part of the version corresponds to

each other, and the versions before and after the version shall be consistent in the process of after-sales maintenance, otherwise the display may be abnormal or some functions may be invalid.

11. "Save" controls the storage action of the parameters of the wire feeder system, including all parameters on the "Home" and"Setup" pages except for "Language". Click "Hold"to turn from yellow to green, indicating that the hold is successful. Note ①:The "language" of the system is automatically saved;

Note ②:After power failure and restart, the system displays the latest saved data, so please make good use of the save function to avoid the loss of process data.

12. "Back" controls the wire feeder system to switch back to"Home".

13. Help controls the display of the Parameter Description. Click to view"Parameter Description".

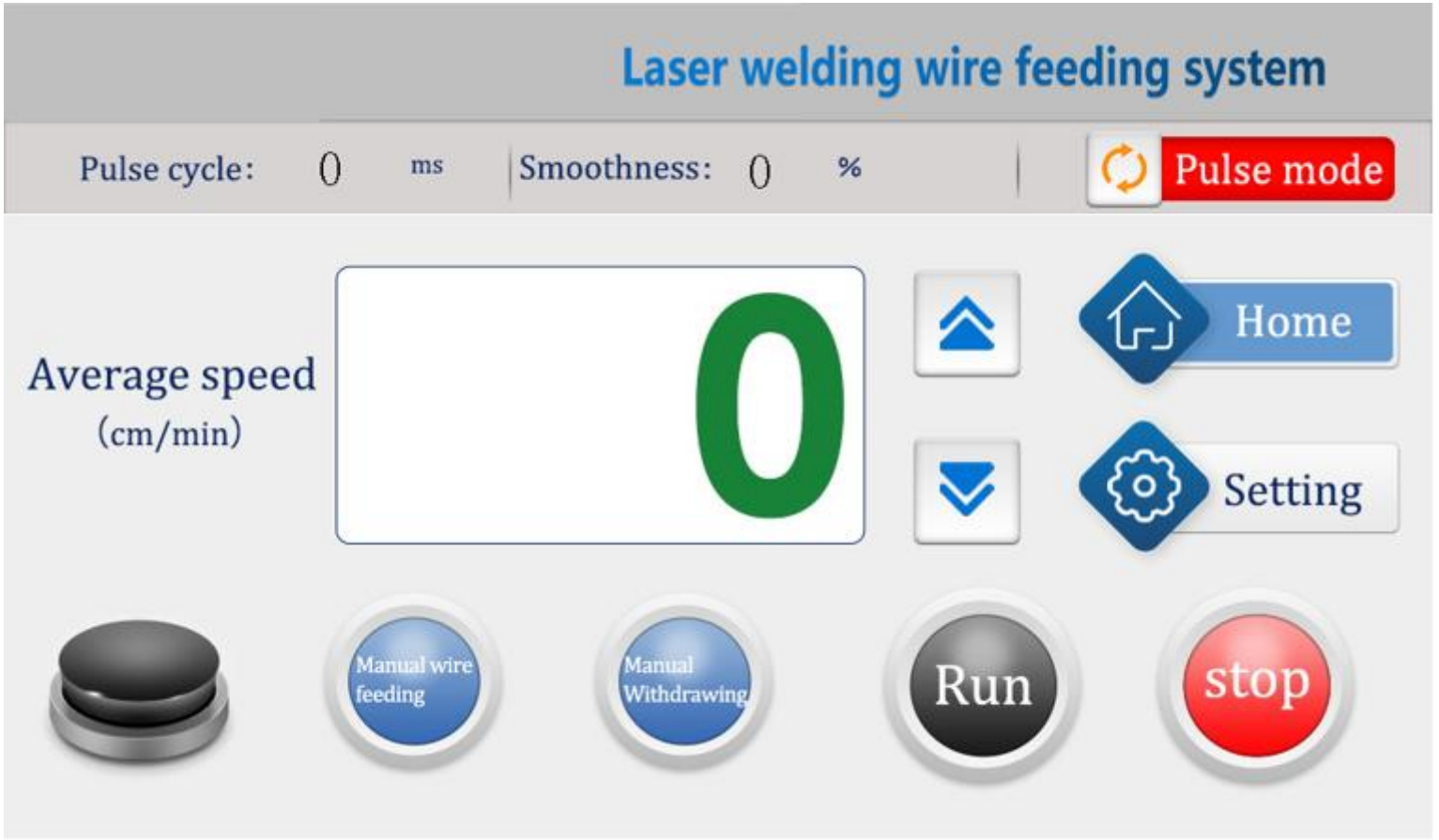


Figure 1-3 Pulse Modes-Home

1. "Pulse Mode" indicates that the current wire feeding mode is"Pulse Mode", and it can be switched to "Continuous Mode"by pressing the button.

2. "Pulse Period" and "Smoothness" display the current parameter values, which cannot be adjusted. See the introduction of the setting page for details.

3. Average Speed controls the overall wire feed speed for Pulse Mode. Average Speed is independent of Pulse Period and Smoothness. Range 15 to 300 cm/min,usually set to 60 cm/min. You can click the "number" to input directly from the keyboard, or you can adjust it quickly through the"arrow". Note: The "average speed" is not equal to the"manual wire feeding speed".

4.Other keys and parameters are the same as "continuous mode".

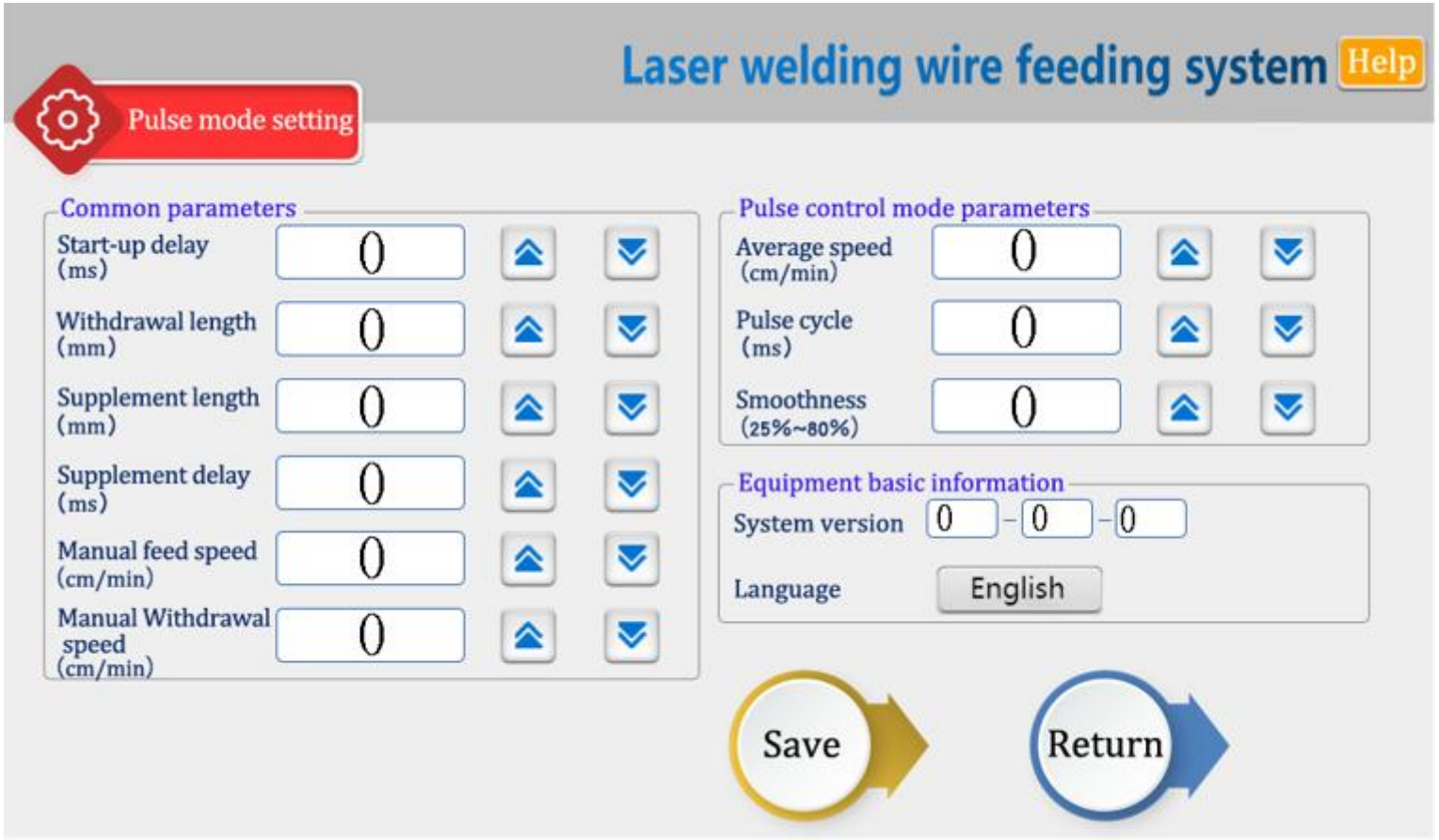


Figure 1-4 Pulse Mode-Settings

1. "Average Speed" controls the overall wire feed speed, the same as"Average Speed" on the first page.

2."pulse period" controls the size of individual fish scales, and the larger the period, the larger the individual fish scales. Range: 50 ~ 1000ms, usually set as 500ms.

3. "Smoothness" controls the fluctuation of the interval between the two scales, and the smaller the value, the more obvious the overall effect.Range 10 to 80, usually set to 30.

4.The keys and parameters of other setting pages are consistent with the continuous mode.

5.To sum up, "pulse mode" is mainly used for fish scale welding. The above parameters are reference values. In actual use, it is necessary to adjust appropriately according to the material of welding wire, the model of welding wire, the laser power and the width of welding seam in order to obtain the ideal effect. Other keys and parameters are consistent with the continuous mode.

4. Treatment scheme without wire feeding

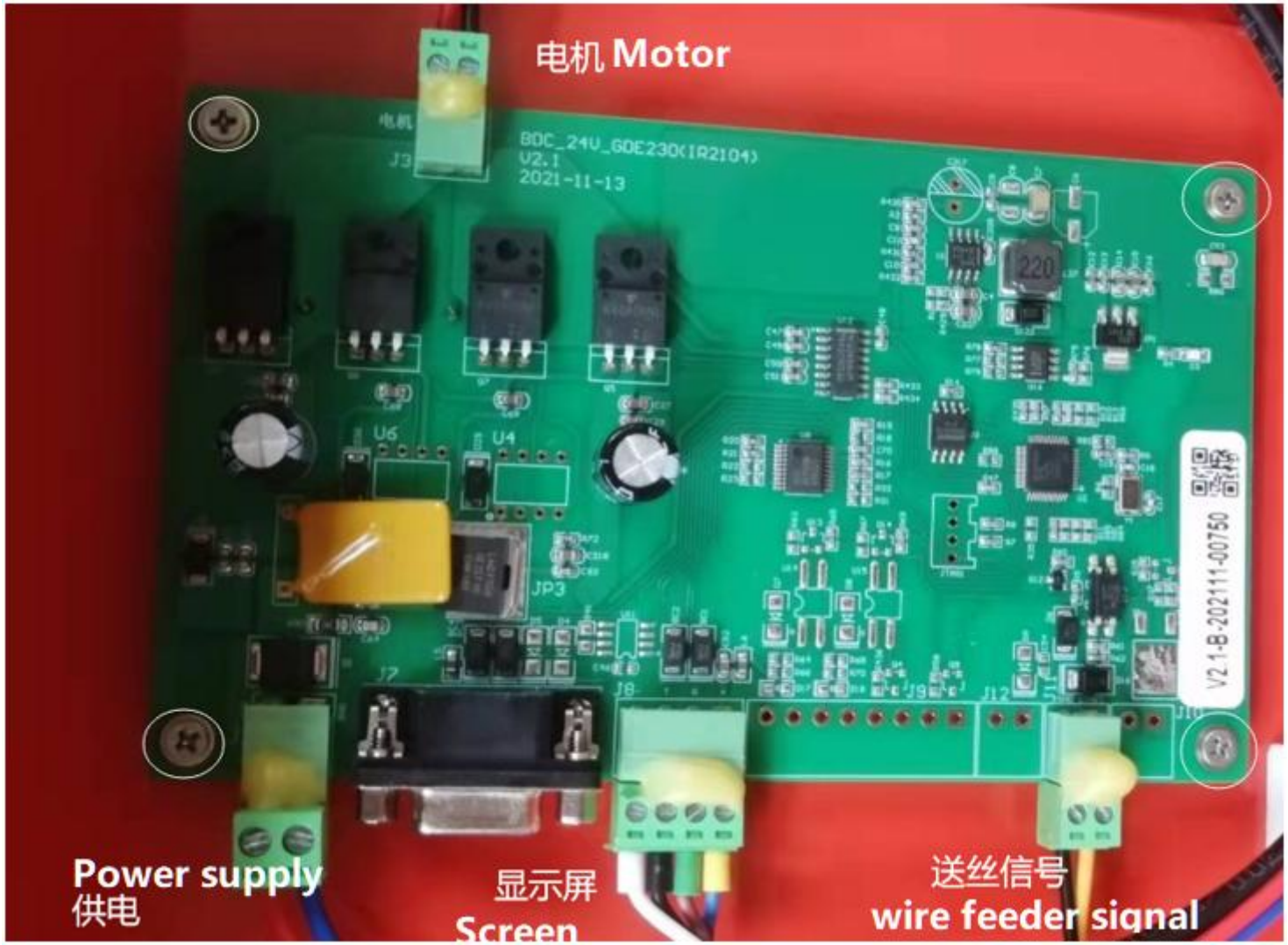
Operation logic: the wire feeder is connected to pin 5/6 of signal interface II of the control box through the two-core plug signal line atthe tail. When the system is running, the 5/6 is connected after the built-in relay of the main board of the control box is closed, and the wire feeder starts to work.

Under the condition that the air and light are discharged but the wire is not fed:

First, check the setting of the wire feeder to see if the pulse parameters are normal. Set the data in the red box as shown in the figure as 0 (some versions have no pulse function, so it is not necessary to set it).

After there is no problem, we first determine whether there is a problem with the control of the wire feeder, click the front panel of the wire feeder [Manual Wire Feeding], and observe whether the wire feeding whee lis running.

① If the wire feeder does not operate or there is a problem with the wire feeder itself, remove the side cover plate of the control box, press and hold [Manual wire feeding], and measure the voltage at the motor end of the circuit board. If there is voltage, replace the motor. If there is no voltage, replace the main control board.


电机 Motor
BDC_24V_GDE230(IR2104)
V2.1
2021-11-13
V2.1-B-202111-00750
Power supply
供电
显示屏
Screen
送丝信号
wire feeder signal

② If the wire feeder is running, continue to follow the following operation: connect the wire feeder signal port with a short wire. If the wire feeder is not running, it can be determined that there is a problem with the main board of the wire feeding machine. At this time, the main board of the wire feeding machine needs to be replaced

If the wire feeder is running, it can be judged that there is no problem with the wire feeder. Check the system motherboard and the signa lline.

Unplug the signal line of the wire feeder on the control box (5/6 corner of signal interface II), and measure the on-off of 5/6 corner in the welding state (for individual models, open the IO port for diagnosis function).

If it is in the path state at this time, the problem of the main control board of the system can be ruled out. Generally, the signal line is open circuit, which can be confirmed again by using a multimeter.

If the circuit is still open in the welding state, it indicates that there is a problem with the motherboard, and contact the after-sales service for treatment.

When there is a problem with the main control board, the external relay can be controlled by the 3/4 pin of the signal interface 2 to control the signal line of the wire feeder for temporary use. The wiring definition is as follows (the normally open pin of the relay is used for the two-core signal of the wire feeder).