The built-in height controller manual
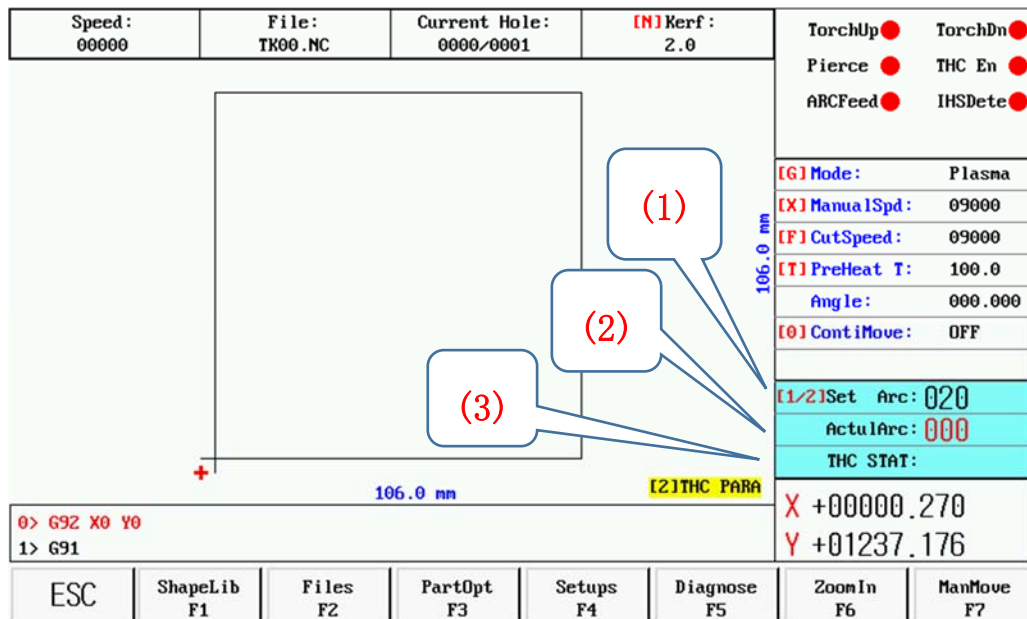
1.1 height controller manual

After open the controller, as shown below::

| Speed: 00000 | File: TK00.NC | Current Hole: 0000/0001 | [N]Kerf: 2.0 |

TorchUp● TorchDn●
Pierce ● THC En ●
ARCFeed● IHSDete●

[G]Mode: Plasma
[X]ManualSpd: 09000
[F]CutSpeed: 09000
[T]PreHeat T: 100.0
Angle: 000.000
[0]ContiMove: OFF

[1/2]Set Arc: 020
ActulArc: 000
THC STAT:

[2]THC PARA

X +00000.270
Y +01237.176

106.0 mm

0> G92 X0 Y0
1> G91

(1) (2) (3)

| ESC | ShapeLib F1 | Files F2 | PartOpt F3 | Setups F4 | Diagnose F5 | ZoomIn F6 | ManMove F7 |

(1) Set the arc voltage, press the [1] key to increase the arc voltage, and press the [2] key to decrease the arc voltage.

(2) Actual arc voltage. After successful arc starting, the actual arc voltage is displayed.

(3) High-controller status: display the status of high-controller ascending, descending, upper limit, lower limit, successful arc starting, automatic, etc.

Before and during cutting, press [1] to increase the arc voltage setting value, and press [2] to decrease the arc voltage setting value.

The status signal of the height controller is as follows (text is displayed when there is a signal, and not displayed when there is no):

Auto: The height adjustment is in the state of automatic height adjustment.

Up: The increase is rising.

Down: The increase is decreasing.

Zero: The origin switch has a signal.

ULim: The upper limit switch has a signal.

DLim: The lower limit switch has a signal.

Alar: Servo alarm.

Arc: Increase the arc start switch.

1.1 Parameter setting

After opening, press 【2】 key to enter the parameter adjustment screen, the parameter interface description is as follows::

THC Given voltage	20	(0 < P < 400)
THC IHS delay time	0.0	(0.0 < P < 25.5)
THC arc delay time	0.0	(0.0 < P < 25.5)
Watch Arc From THC(0)/Input Port(1)	0	(0 < P < 1)
THC Manual Speed	0	(0 < P < 255)
THC Auto Speed	0	(0 < P < 255)
THC IHS Speed	0	(0 < P < 255)
THC arc voltage adjust	0	(1 < P < 255)
THC sensitivity	0.0	(0.0 < P < 10.0)
THC Enable 1 / Disable 0	0	(0 < P < 1)

ESC	Update F1	F2	F3	F4	F5	F6	Save F7

THC Given voltage： Increase the arc voltage setting. In the cutting screen, press [4] [5] to set the arc voltage.

THC IHS delay time： Increase the positioning time. The longer the time, the higher the positioning height.

THC arc delay time： Increase the perforation time.

Watch Arc From THC(0)/Input Port(1)： Set to 0 to detect the successful arc starting signal from height adjustment; set to 1 to detect the successful arc starting signal from the input port, the default value is 0;

THC Manual Speed： The speed when manually adjusting the height. The default value is 100.

THC Auto Speed： Speed when automatically adjusting height. The default value is 100.

THC IHS Speed： Increase the rising speed during positioning. The default value is 100.

THC arc voltage adjust： If the actual measured arc voltage is greater than the displayed arc voltage, this parameter needs to be increased; if the actual arc voltage is less than the displayed arc voltage, this parameter needs to be reduced. The default value is 100.

THC sensitivity (1-10) ： The larger the setting value, the greater the adjustment range of the torch. The default value is 1.

THC Enable 1 / Disable 0：Use the built-in height adjustment set to 1, do not use set to 0, the default value is 0;

1.2 CNC and THC

The whole system is composed of CNC system SF-2100C, two-core shielded communication line, height adjustment control box SF-51D, as shown below::
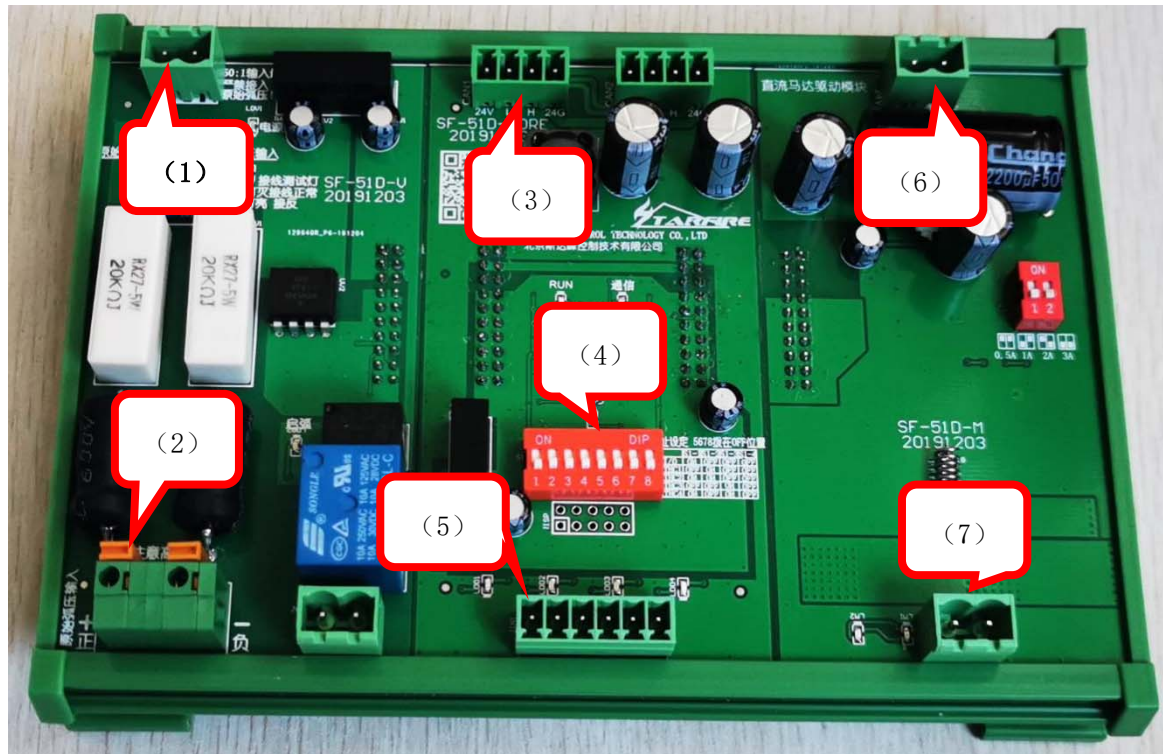

Two-core twisted pair shielded wire

+

Among them, the communication line requires the user to weld by himself according to the length.

1.3 CNC communication interface definition

9-pin communication port	Explanation
1	5V power supply +
2	CAN H
3	CAN L
5	GND

1.4 SF-51D Instructions for height adjustment board

(1) 50:1 arc voltage interface.

(2) Original arc voltage interface.

(3) DC24V power supply and CAN communication line interface, H connects to NC communication port 2 feet, L connects to 3 feet.

(4) Dip switch interface, the default value is as shown below, and cannot be modified.

1	2	3	4	5	6	7	8
OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF

(5) Interface definition, from left to right:

24V, spare, zero, lower limit, upper limit, 24G

(6) DC24V power interface.

(7) DC motor interface.