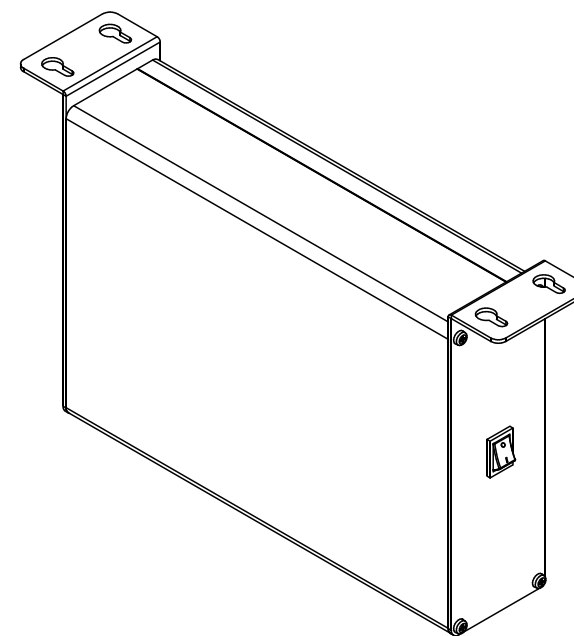


CC-66 series

Industrial sewing machine servo control box

Instructions



In order to safely use this product, please read this manual carefully before using

Directory

I. Announcement -----	1
1. Work environment -----	1
2. Installation notice -----	1
3. Safety notice -----	1
II. Installation and adjustment -----	2
1. Control box dimensions -----	2
2. Machine installation diagram -----	2
3. Direct drive motor and handwheel installation -----	3
III. Power line connection method -----	4
1. Single-phase 220V power supply wiring -----	4
2. Three phase four-wire 380V power line wiring -----	4
IV. Terminal Block Function Chart -----	5
V. Operation box using -----	6
1. Sewing pattern selection -----	6
VI. Setting instruction of difference sewing type -----	8
1. Freely sewing type setting -----	8
2. Multi-stitch seam settings -----	8
3. Speed setting -----	8
4. how to enter into user parameter and system parameter: -	9
5. how to resume original setting: -----	9
VII. Parameter setting panel's bottom manual -----	10
VIII. additional special function instruction -----	11
IX. Seven segment display font and font actual value comparison table --	12
X. System function parameter list -----	13
1. User parameter A area -----	13
2. System parameter B area -----	14
XI. System failure alarm code and trouble shooting -----	17

I. Announcement

C-66 industrial sewing machine servo control box is special for industrial sewing machine system ,please using it with professionals' guide to prevent any accident .

C-66 followed by “-D” means it is available for the direct drive sewing machine head, read the detail of this manual.

1. work environment

▲ Using range as 22V+10% A.C.

▲ Keep away from interference source to prevent wrong action happen .

▲ Quote the temperature between 5-45 ,relative temperature couldn't out of 80% in the room .

▲ Keep away from flammable and combustible materials

2. Installation notice

▲ Install the control box follow the instruction in right way

▲ Make sure the power off and pull out plug before installation

▲ Keep away from any active body when binding wire

▲ Make sure the machine head , motor and control box grounding reliably.

3. Safety notice

▲ Make sure the power off before you repair or maintenance .

▲ Make sure the power off before you open the machine or change the needle、bobbin or threading .

▲ Please keep the motor with low-speed running because there's high voltage inside of control box ,make sure motor running in right direction and control box with normal function.

▲ During the sewing period ,don't touch hand wheel 、needle and take-up -lever.

▲ For the active machine parts, make sure the protective equipment is available, and sure there is no anything blocking outside.

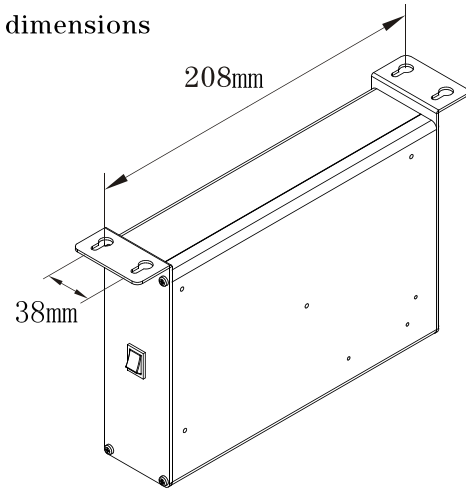
▲ When there's any liquid or other corrosive substance get to control box or motor , stop working and power off immediately, then deal with it by professional .

▲ Don't insert or extract any connector with power on .

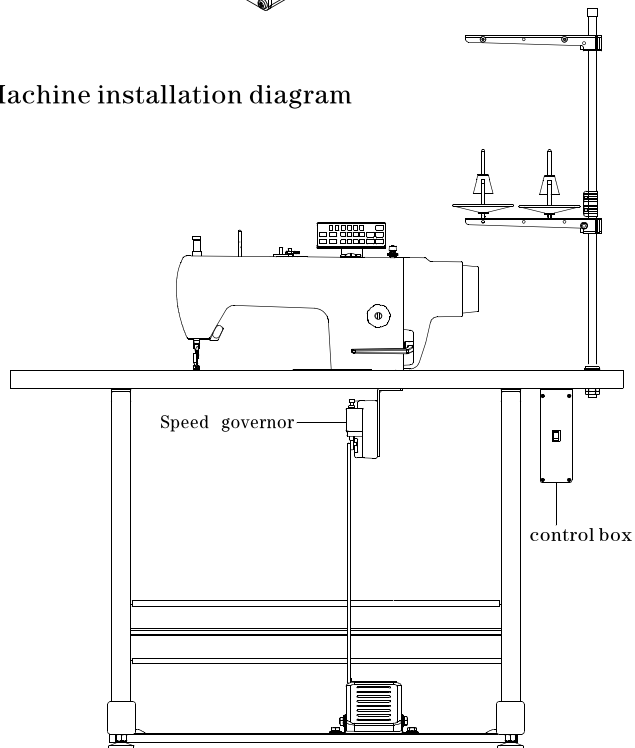
▲ Plug connector moderate force, patch should be inserted in place, locking device should be locked. Unplug the device by holding down unlock, pinch connectors for mating. Do not shake the connector, pull cable.

II. Installation and adjustment

1. Control box dimensions

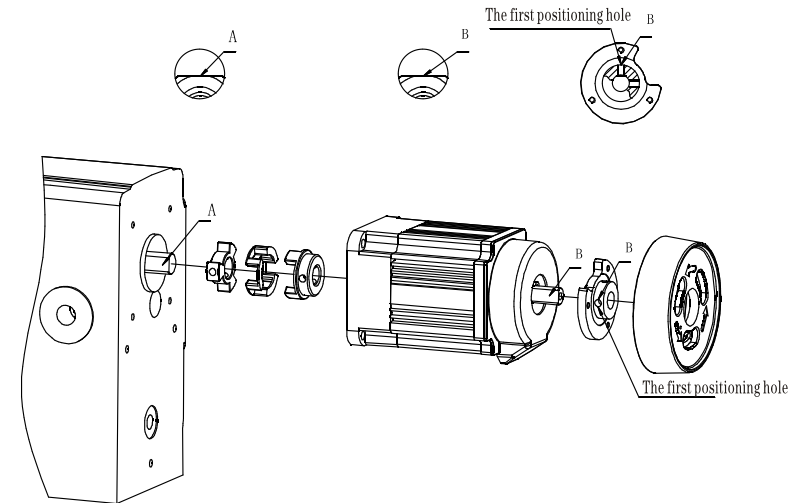


2. Machine installation diagram



3. Installation of direct drive motor and hand wheel

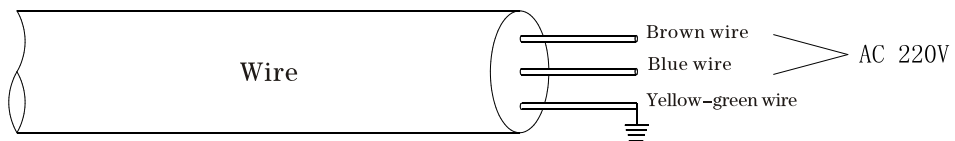
Motor is mounted to the motor shaft mounted hand "flat" point machine upper axis positioning "flat" position in a straight line installation. Figure: A to align A to install the handwheel positioning block to the first positioning holes on the motor "flat" Installation



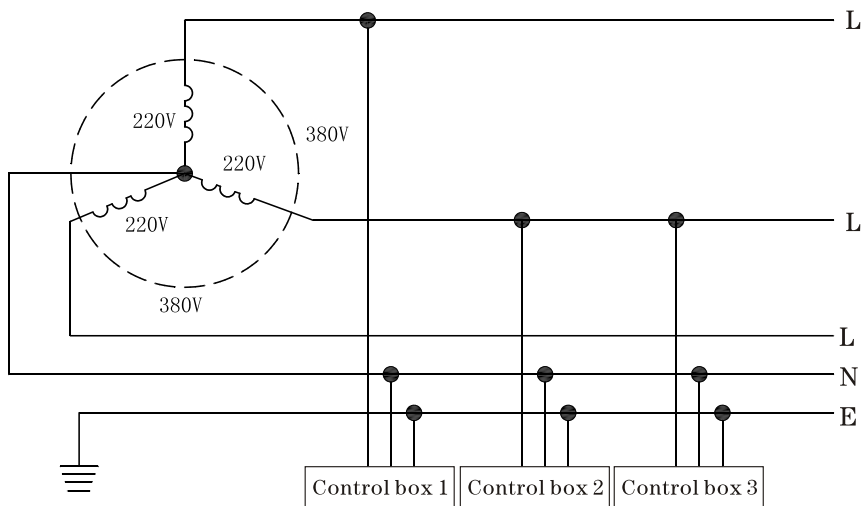
III、 Power cord connection

1. Single-phase 220V power connection

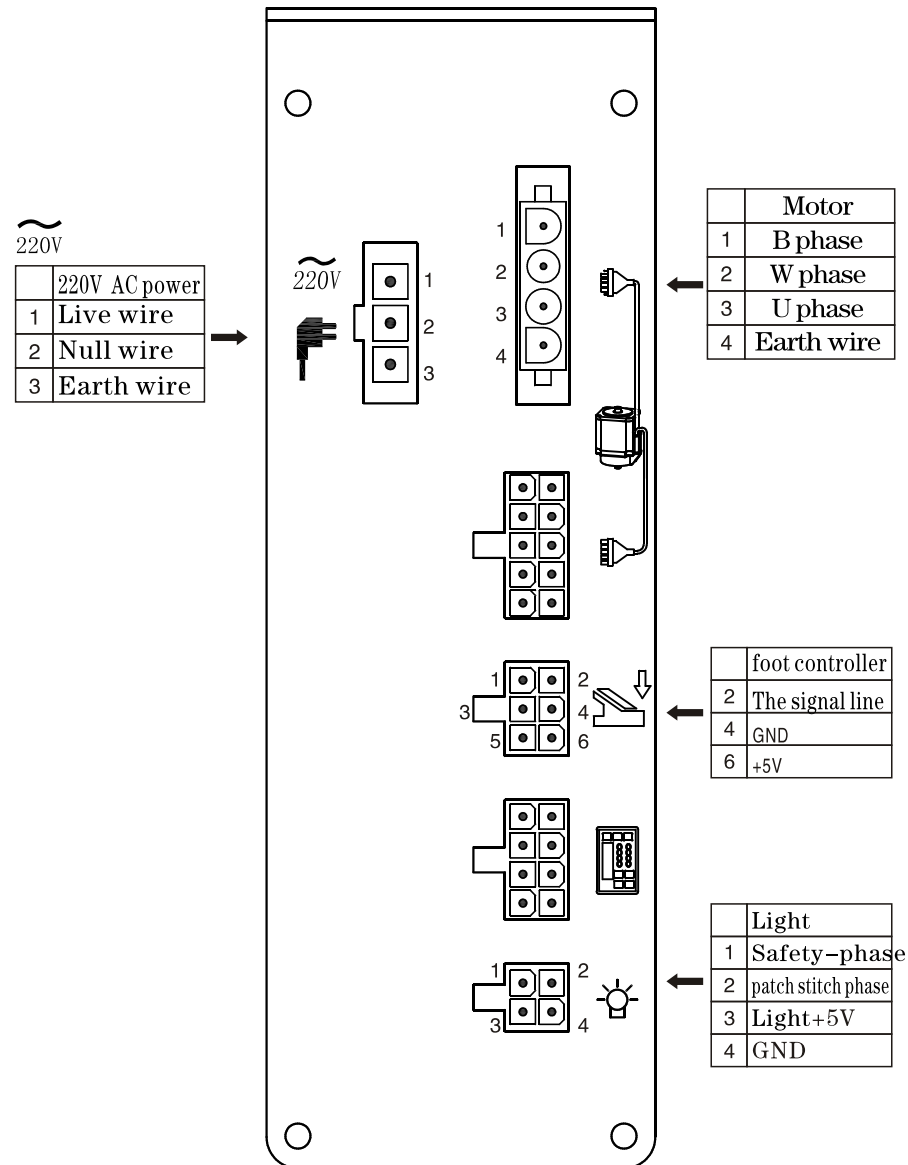
Yellow-green wire is the ground wire, must ensure reliable grounding



2. 380V three-phase four-wire power connection

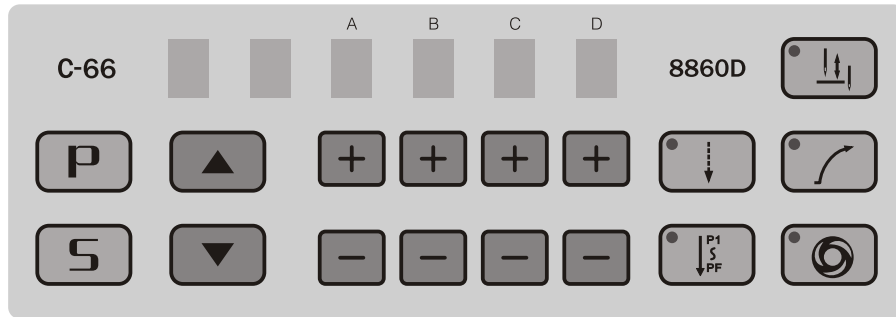


IV、 Terminal Block Function Chart



V. Operation box using

C-66 operation panel diagram



AUTO

1.Sewing type option

Function	Key	OPERATION OF SEWING MACHIN
Free sewing		When front step pedal function , sewing automatically ,when pedal in neutral position ,machine stop sewing .
multi stitch seam state		This button lights is multi-stitch seam state, the maximum is set to 15 seams


Function	Key	OPERATION OF SEWING MACHIN
Needle Up/patch stitch		<p>1.Free sewing: Click the button on the lamp housing can be used to lift the needle or a needle forward for the fill one sitch movements.</p> <p>2.In Constant-Stitch Sewing:</p> <ol style="list-style-type: none"> 1)If sewing stops intermediately in one section, click the button will raise the needle . 2)If it stops at the end of section, click the button will sew one stitch forward .
AUTO		<p>1.In Free sewing : button of this key makes beep sound without any function also LED does not light up.</p> <p>2.In Constant-Stitch Sewing:</p> <ol style="list-style-type: none"> 1)When the pedal before riding to automatically execute 1,2 14,15 segment or segments set in the pin number, paragraph number of stitches to complete stop. 2)One by one before stepping pedal that automatically execute the next segment until the set number of stitches done automatically.
Needle position setting		In stop sewing stitch position setting key, function upper/ lower needle stop setting. LED light means upper stop needle position, LED dark means lower stop needle position.
Slow start setting key		Slow start setting key, LED light means function one, LED dark means function off.
Speed key		Increase speed
		Decrease speed

VI. Various sewing type setting instruction

1. Freely sewing setting setting




1) How to set free sewing

When the power on , push the key to  light LED (if not , heel back the pedal), as free sewing status, light front step down the pedal to perform free sewing. When the pedal turn to neutral stop sewing.

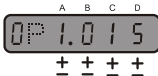
2. Multi-stitch settings



1) how to enter the multi-stitch seam interface

In standby mode, press this button  lighting is multi-stitch seam status. (If not, should pedal heeling).

2) how to set the multi-stitch seam stitch number

In the multi-stitch seam in a state, the display shows  . A point below the corresponding figure for the first few paragraphs numbers. Can be adjusted by the following key stitching number, maximum adjustable 999 stitches. (Hint: do not need stitches after the number of seam should be adjusted to 0).

3. Speed setting

1) How to setting speed

Direct push the key to  increase speed ,  decrease the speed, change 50 each time press the button.

4. how to enter into user parameter and system parameter:

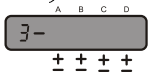
In standby mode heel back the pedal and after cutting thread , then holding P key for 2-3 seconds to enter user parameter A area, can amend the parameter as NO.001-NO.045 . After that, press the key S to confirm saving , then holding P key 2-3 seconds to exit .

In standby mode press P key to power on for the system to turn on , when the screen show 046DIR to enter system parameter B area , can amend the parameter NO.046-079, then press S key to confirm saving and press P key for 2-3 seconds exit. User parameter of A area can be amend when enter system parameter B area .

Note: Entering parameter area to find the number of the parameter you want to modify and press the S key to enter the parameter to modify the contents of the interface, and then modify the content of the corresponding, press S to confirm the save to take effect.

5. how to resume original setting:

1) In shutdown state press S key to turn on the system , change the last two figure on the panel screen as “08” , then press S key to confirm , then change “080” to “096,RS” (note: “0” of “08” will not show). Press S key again to enter in and amend the NO.096 contents , finally change the parameter content as “5550” and press S then P key for 2-3 seconds to exit.









2) Press P and S key at the same time to make the system power on ,  the first letter “ 3- ” flashing ceaselessly means have resume original setting successfully. (Note: If there' s no “ 3- ” flashing means the panel is not available to resume original setting by this way.)

VII. Instructions for use parameter settings panel buttons

The control system has a series number of parameters can be modified, arranged in a certain order. The specific parameters of the project content, name, scope, content and setting the initial value numerical description see Appendix 5 "system function parameter list." Function parameters are divided into Zone A user parameters (including 1–45 numbers) and parameter B area (including 46–79 numbers), all parameters are set on the operation panel .

1. Key functions defined

The system enters the "parameter setting interface", the buttons on the operator panel is redefined, and the original meaning differ, specifically defined below:

KEY	MEANING	REMARK
	The contents of the selected parameter number for viewing or saving	In the choose the right parameter number is then Press this key to view the or modify the parameter contents, after modify the parameter value then Click this key to exit and save the parameters
	Enter or exit the function parameter editing	In general sewing interface Press 2–3 seconds to enter the parameter edit mode, in the parameter edit mode this button for 2–3 seconds to exit parameter edit mode to normal sewing Interface
 	Plus or minus key to modify the contents of the value parameter	A plus and minus keys to modify the corresponding multiples of 1000 B plus and minus keys to modify the corresponding multiples of 100 C plus and minus keys to modify the corresponding multiples of 10 D plus and minus keys to modify the corresponding multiples of 1
 	speed key	 increase speed  decrease speed

VIII. New Special Function

1.cut thread the needle to its highest point adjustment: (070.L2)

(sew the thick material the presser foot carried up, needle did not return to the highest point, fabric touch the needle)

0:shuttle

1 ~ 280: You can set between generally highest setting 200;

2.Pedal reaction speed adjustment: (034.BRN), (052.PA)

(034.BRN): Slow response sensitivity adjustment area. Parameters content: 20 to 200 can be set between the smaller value, then the response is faster , the bigger value then the response is slower

(052.PA): the highest speed from the start speed adjustments.

Parameters content 50 ~ 800: can be set between. smaller the value, then slower the reaction, bigger the value, then faster the reaction.

3. Restore factory settings

While holding down the P key and the S key system power on, digital control first figure 3 – in the flashing, indicates a successful restore factory settings (Note: No 3 – in the flashing, indicating that the operation panel does not support this feature).

IX、Seven segment display font and font actual value comparison table

1.Digital Fonts section

Actual value	0	1	2	3	4	5	6	7	8	9
LCD	0	1	2	3	4	5	6	7	8	9

2.English font section

Alphabet	A	B	C	D	E	F	G	H	I	J
LCD	A	b	C	d	E	F	G	H	I	J
Alphabet	K	L	M	N	O	P	Q	R	S	T
LCD	E	L	n	o	P	q	r	S	T	
Alphabet	U	V	W	X	Y	Z				
LCD	U	v	W	X	Y	Z				

X:System function parameter list

1.A user parameter area

Parameters Item Description	Name	RANGE	Initial Value	Set Property Value Description
[001. H]	Maximum speed r/min	150 ~ 4000	3500	The highest speed setting when sewing with related models
[002.PSL]	Acceleration curve adjustment %	1 ~ 100	70%	Climb slope of the acceleration controller settings
[003.NUD]	needle stop position selection	UP/DN	DN	UP (upper needle stop position) DN (below needle stop position)
[007. S]	slow start sewing speed r/min	150 ~ 2800	800	slow start sewing speed setting
[008.SLS]	slow start sewing stitch number	0 ~ 99 针	2	slow start sewing stitch number setting
[009. A]	Automatic stitch sewing speed setting r/min	300 ~ 4000	3200	AUTO operation panel keys are pressed for speed setting
[011.RVM]	hand button back sewing function model selection	JUK/BRO	JUK	Button the back sewing key timing,JUKI style(sewing or stop status all are operate BRO:BROTHER BROTHER STYLE(only in the sewing status operate)
[028.PN5]	Piece-rate setting	1 ~ 100	1	1 to 100: This parameter sets the number, and then trimming the number of times to increase the value of a piece, the number shows

[034.BPN]	Slow zone front stepping foot in response sensitivity settings	20 ~ 200	80	20: front riding the pedal the fastest response 200: front riding the pedal slowest response
[039. PS]	Back sewing button patch stitch function	0/1	0	(011.RVM) : In active mode BRO 0: Only back sewing without patch stitch 1: back sewing with patch stitch
[044. PN]	the sewing piece number display	0 ~ 9999	0	According to (028.PN5) piecework rate parameter settings, the display automatically accumulated number
[045.SSS]	slow start sewing function selection	OFF/ON	OFF	OFF: to cancel the slow start sewing function from the seam

2. System parameters B

Parameters Item Description	Name	RANGE	Initial Value	Set Property Value Description
[046.DIR]	Motor rotation direction setting (Reversible)	CW/CCW	CCW	CCW: Counterclockwise CW: clockwise
[048.SYM]	Synchronizer Model Set	0 ~ 3	3	0: H-Sync is compatible with HOHSING3: S-type synchronizer, only zero signal, below needle position, upper needle position Set needle position angle (with zero point)
[052. PA]	front stepping pedal the sewing speed response sensitivity settings	50 ~ 800	80	50: With the pedal response speed of the slowest 800: With the pedal response speed of the fastest Can be set according to the operator proficiency

[054. BK]	The motor is stopped, the brake lock uncton	OFF/ON	OFF	ON:The motor is stopped, the brake lock machine OFF:No effect
[055.TOT]	UTD = ON, the motor running total time limit	1 ~ 800Hrs	8	Up to 33 days (800 hours)
[056.TM1]	UTD = ON, the motor running time	1 ~ 60s	3	In automatic operation test, the working hours of free sewing
[057.TM2]	UTD = ON, the motor stop time	1 ~ 60s	3	In automatic operation test, each time interval
[058.UTD]	Automatic operation test function	OFF/ON	OFF	This parameter is set to ON, the automatic operation start of the testing, according to the sewing needle selection box set mode
[060. L]	Low Speed r/min	120 ~ 400	250	Low speed adjustment
[065.SFM]	Safety switch signal form	NO/NC/LK	NO	NO: Safety switch into force signal, normally open state must be maintained NO: Safety switch into force signal, normally close state must be maintained LK:safety switch power off
[069. M]	Stopping and speed setting midway	150 ~ 800	600	Stopping and without trimming speed setting midway
[070. L2]	After stopping to mention trimming needle reverse angle settings	0 ~ 280	0	0: no need needle reverse lift 1-280 reverse-angle of the needle lift, and 4 indicates a degree

[075.UEG]	Stop when the needle upper stop position adjustment	0 ~ 250	0	Fine-tuning stops positioned on the angular position (center value is 40), the value decreased needle in advance, the value increases will be delayed needle
[076.DRU]	Counting from the next needle reverse rotation, the angle reaches the upper needle position	1 ~ 360	165	(048.SYM) is set to 3, by the needle down position, counting up the reverse angle on the needle position to set up a virtual needle position down position
[077.ANU]	Power on and automatic to seek upper needle stop position.	OFF/ON	ON	ON: After power is turned on, automatically find the positioning signal to stop OFF: NO EFFECT
[078.URU]	Counting on the needle position by the reverse rotation angle reaches zero	1 ~ 360	5	(048.SYM) Set 3:00, counting up from the zero point on the needle position to set the virtual reverse angle under the needle position
[079.ERR]	Last fault error code	0 ~ 999	0	0— No fault occurred

X1: System failure alarm code and Troubleshooting

C-66 High-speed sewing machine control system has automatic alarm function in the event of failure, the controller will issue a "bit" beep while on the operation panel will display the corresponding error code, then the controller automatically starts saver, stop all sewing function, to avoid accidents.

The meaning of the fault code and the possible problems and solutions as follows

Error Codes	Code Meaning	Possible problems	REMEDY	
Fatal Error	ERR—00	Input signal self-test error	1. Foot pedal speed control circuit problem or pedal power has been in self-test front step and back step state can not return to the neutral position 2. DC bus voltage is low 3. Driver module fault signal is not normal	1. Release the foot pedal back to the neutral position 2. Check the pedal signal cables are connected well
	ERR—01	Machine body feedback signal is not normal	1. Synchronizer is not normal, the needle upper position can not be detected 2. Sensor magnet off	
	PWROFF	power off	1. 30W Fuse failure 2. System is powered down	Off, check all fuses, re-power
	ERR—03	The machine is not running properly	Synchronizer is not normal, the needle below position can not be detected	
	ERR—04	Overcurrent, overvoltage, overtemperature undervoltage	1. Motor power drive module Fault 2. Instantaneous interference	
	ERR—05	DC bus voltage overvoltage	Braking resistor or braking bad fuse	Power off the system checks
	ERR—07	Motor stall	1. Mechanical jam 2. The encoder signal is not normal 3. Motor output HALL signal is not normal	Power off the system checks whether the normal mechanical properties testing machine

General warning	9	DC bus voltage is too low	1.AC input voltage is too low 2.There is a fault Inside	Supply voltage detection
	A	Positioning parking error	1.MPD, SPD parameter setting wrong 2.Overload 3.The encoder signal is not normal 4.Synchronizer signal instability 5.Motor failure, lack of driving force	Off, check the machine and the motor is normal or not
	B	Exceed the maximum speed	1.Exceed the maximum speed in the same direction 2.300R/MINOver the opposite direction 300R/MIN 3.The encoder signal is not normal 4.HALL motor output signal is not normal 5.Motor failure (such as demagnetization)	1.Between the control box and the motor drive line U / V / W connections are good or not 2.Whether the system has been reliably grounded
	C	Synchronizer self-test error	Synchronizer is not plugged in	1.Power off, plug in the synchronizer, and then power on 2.Replace synchronizer
	D	EEPROM read and write data error	EEPROM parameter storage problems	Replace EEPROM
	E	Set the parameters in EEPROM error	The EEPROM setting parameter is incorrect	Power Restart
	F	Motor encoder output signal error	If the "F" continuous alarm indicates that the motor built-in encoder problem	Check the motor output signal line is disconnected or wrong

When a fault occurs, firstly power off the system, check the control system ground is good, after 30 seconds , restart the system and see if the power can work, if the fault does not clear, please try again, still not clear, please contact the supplier