

简易皮带外挂使用说明书 V1.0

1. Safety instruction

Please read the operation manual and related sewing machinery datasheet carefully before correct use.

- 1.1 (1) Power voltage and frequence: please refer to motor and control box nameplate.
(2) Interference from electromagnetic wave: please keep far away strong magnetic or high radiation environment in order to avoid obstructions and make to misoperation.

(3) Grounding: to avoid the noise obstructions or leakage of electricity accident (inculding sewing machine, motor, control box and positioner).

1.2 Please make sure power off at least 1min and then can open control box cover, because there are dangerous high voltage.

1.3 Please turn off the power while repairing or wearing needle in order to protect operater’s safty.

- 1.4  Used where potential dangers exist.
 Used where high voltage and electric danger exist.

1.5 Product warranty period of one year on condition that this machine is operated correctly and no man-made damage.

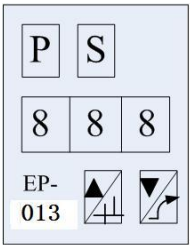
2. System parameter table

A51: belt flat wagon		B51:		C51: belt tension suture		
No	Project	Content	compatible	Setting range	default	level
1	Sewing speed	Set sewing speed	B51、C51	300~6000 rpm	4000 rpm	I
			A51	200~5000 rpm	3700 rpm	
2	Soft-start function	1~10: Soft start stitches	all	1~10	2	I
3	soft start speed 1	speed of the 1 st needle of soft start	all	20~200	60	I
4	soft start speed 2	speed of the 2 nd needle of soft start	all	20~200	100	I
5	soft start speed 3	speed of the 3 rd ~9 th needle of soft start	all	20~200	150	II
6	Acceleration time	Pedal to accelerate time to choose	all	1~250	15	II
7	Deceleration time	Pedal to slow time to choose	all	1~250	15	I
8	Simple sewing mode Settings	0:invalid 1:effectively	all	0~1	0	I
9	Power on and positioning	0:unavailable 1:available	all	0~1	0	I
11	Pedal curve selection	0: normal 1: Slow acceleration 2: Quick acceleration	all	0~2	0	I
13	Propirtuib if the wheel	Motor wheel and pulley size selection	all	60%~160%	100%	I
14	Suction choice	0: invalid 1: good-till-canceled order 2, 3, 4, 5 corresponding 100, 150, 200, 250needle spacing suction	C51	0~250	0~250	I
15	Suction time	Suction time to choose	C51	1~50	1~50	I
16	The exhaust opening level	0:low level 1:high level Please do not alter,manufacturer debugging use ,change may lead to suction is not normal.	C51	0~1	0~1	I
18	The needle position signal	0:under the needle position 1:invalid	all	0/1	0	I
19	Under the needle angle	Under the needle position adjustment	all	30 ~240	177	I
20	return to factory-set parameter	0: do not restore 1: restore normal parameters 2: restore all the parameters	A51、B51	0~2	0	I
			C51	0~250	0	
21	highest speed of sewing	highest speed of sewing	C51	2000~6000 rpm	5000 rpm	I
			B51	1000~6000 rpm	5000 rpm	
			A51	1000~5000 rpm	4000 rpm	
22	Low speed torque gear selection	0: there is no strength 1~15: a thick strength gear	all	0~15	0	I
23	Needle position adjustment	Adjust the needle position	A51、B51	0~240	234	II
25	The neutral position of the pedal	Trimming the neutral position of the pedal	all	-10~+8	0	II
26	Pedal travel upon start	Pedal position upon start Travel relative to medium pedal	all	5~33	13	II
27	Pedal travel upon acceleration	Pedal position upon start Travel relative to medium pedal	all	5~79	33	II
28	Pedal travel at highest rotation speed	Pedal position at highest rotating speed Travel relative to medium pedal	all	5~125	90	II
29	After stepping motion pedal stroke	At the end of the pedal position Travel relative to medium pedal	all	-23~-10	-17	II
30	Aging mode	0:temporal mode 1: pin number set mode 2:easy mode 3: aging mode	all	0~3	3	II
31	The aging rate	Aging test the highest speed setting	all	300~5000 rpm	3500 rpm	II
32	Running time of ageing	Aging test run time setting	all	1~200	30	II
33	Pause time aging	Aging test pause time setting	all	1~200	20	II
34	Aging pin number set	Aging test needle number set (only in a effective mode)	all	1~99	30	II

3. Instructions for Operation Box

3.1 key functional specification

NO	Keys	Functions
1		Function keys
2		Save button
3		Add key / needle up and
4		Minus key / soft-start



3.2 Operation Mode

3.2.1 Parameter Mode

Setup Parameter: the parameters are divided into general parameters and advanced parameters; password is needed for entering into advanced parameters. Do not start the system in parameter mode (except for P23 parameters)!! Keys are locked when motor runs.

Press “P”shortly for 1s to enter into general parameters mode, P01 will be shown: 

Press “▲▼” to change serial numbers of parameters. After pressing Key S, corresponding parameters will be shown, and press “▲▼” to change: 

- a) After save by pressing “S”, press “P” to exit .
b) If you press “P ” directly, exit with parameters saved.

3.2.2 Advanced Parameters Mode

Password is needed to access to advanced parameters. Long press “P” for more than 3s to enter into password input interface, and the system displays:  which flickers from the top digit, Press “▲▼” to change with the range of 0~F, Press “S” to switch the position. if password is correct, advanced parameter serial number  will be displayed.

If the password is incorrect, return to 000 (flickering from the top digit as before) Press “P” again to exit. Defailure password is 111. A all-purpose password shall be set in the software. After entry into advanced parameters, the general parameters can also be displayed. Reset Password: at the same time of powering on, press “ ” to enter into password resetting interface. The system will request to input the old password, and the screen will firstly display : Flickering from the top digit, press “S” to switch the position, and press “▲▼” to change, press “P” to confirm input.

- 1) If the password is correct (assumed to be 111), then the decimal point will be on, and the top digit will started to flicker to set new password (assumed to be 555) [range of value for each digit “0~9” “A~Z”]. Press “P” to enter into confirmation screen after setting; press “▲▼” and select “YES”, press “S” to save, “oFF” will be displayed. It is prompted to power off, and press “P” to exit →
- 2) →→ If the password is incorrect, return to display of 000. After mistaken input for 3 times, “oFF” will be displayed to prompt to power off.

3.2.3 Motor Angle Test Mode

Press “S” to power on, enter into motor angle test mode, and the system will display:  Press “P+▼” to start testing. The motor angle will be displayed after test is finished. Exiting from this mode can be achieved only by powering off.

3.2.4 Monitoring Mode

In ready mode, long press “S” for 2s to enter into monitoring mode, press “▲▼” to change the serial number of monitoring, and the monitoring values can not be modified. Specific display contents:

Displayed	PROJECT	Unit		Displayed	PROJECT	Unit
SPD	Speed:	(*10) rpm		DJ	Angle	degrees
CUR	Electric	0.01A		VER	Version :	/
UDC	Voltage:	V		id	Model	

- Press “S” to enter into specific values, press “P” to exit and turn to ready mode.
- 3.2.5 Aging Mode Long press “P” to power on, enter into aging mode. Press “P+▼” to start, and press “P+▼” again to stop. Nixie tube will display: 
- 3.2.6 Analog Pedal Zero Position Correction Mode After powering on, the system will operate at low speed if pedal is found not being stepped in ready mode to start zero position correction function. At the same time of powering on, press “ ” to enter into pedal zero position correction mode, and the system will display: Press “P+▼” to start correction. After correction is finished, correction value will be displayed (general range is +15~-15)  In case of beyond the range, report failure.
- 3.2.7 Failure Display Mode In case of failure, failure code  will be displayed. Failure history is not saved.

4. Failure Display

Failure display	Failure:	Possible causes:	Remedies
E1	Overcurrent of hardware	Current detection is abnormal; drive hardware is damaged	Check whether the current detection circuit of system is operating properly; whether driving device is damaged
E2	Overcurrent of software	Current detection is abnormal; motor running is abnormal	Check whether the current detection circuit of system is operating properly; whether motor signal is normal
E3、E5	Overvoltage of system	Actual voltage is high; voltage detection is wrong	Check whether incoming line voltage of the system is too high; whether voltage detection circuit is operating smoothly
E4、E10	Undervoltage of system	Actual voltage is low; voltage detection is wrong	Check whether incoming line voltage of the system is too low; whether voltage detection circuit is operating smoothly
E6、E7、E11、E13、E20	Motor signal failure	Motor position sensor signal failure	Check whether motor plug contract is in good condition; whether motor signal detection device is damaged Whether sewing machine hand wheel is installed in position
E8、E12	Overload of motor	Motor is stalling; motor is overloaded	Check whether motor plug contract is in good condition; whether head or trimming mechanism is stuck Whether the fabrics above the specified thickness is sewed; whether current detection signal is normal
E9、E17	Overspeed fault (exceeding the maximum speed of revolution of set model)	Motor running is abnormal	Check whether motor plug contract is in good condition Whether motor signal is not matched
E14	Current detection circuit failure	Current detection is abnormal	Check whether the current detection circuit of system is operating properly;
E15	Overranging of pedal zero position detection	Pedal zero position correction value is out of range	Pedal is damaged or pedal is not in stop state when correction
E16	OZ circuit failure	OZ circuit is abnormal	Check whether OZ circuit of system is operating properly
E18	Motor angle test failure	Motor angle is out if range	Re-conform the motor angle
E21	Motor model code is empty	Slave computer of operation box has no model code	Re-conform model
E22	Motor model code is out of range	Model code of operation box slave computer is unrecognized	Re-conform model
E23	Lower needle stop position signal failure	Lower needle stop position sensor fault	Check whether lower needle stop position sensor is damaged

5. Accessories

Number	Product name	Qty.	Specifications	Remarks
1	Electric control box	1		
2	Foot Plates	1	PL-501	
3	Linkage ball joint	1		
4	Fastening screw of electric control box	3	M4×8	Hexagon socket head cap screw
5	Fastening screw of pedal	3	M5×25	Hex flange self-tapping screws
6	Specification	1		
7	Triangle belt	1		
8	Protection cover	1		
9	Tie wire belt	1		
10	Stopping device	1		
11	accessories package	1		