Interlock series manual 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.

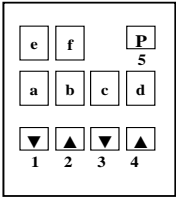**1.4** ⚠ Used where potential dangers exist.

⚠ 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. Operation panel instruction

2.1 The control box operation panel describe

As shown in the right figure.

2.2 sewing function setting

Operation panel default mode:

Needle position, trimming, start bartack and end bartack

1: choice of needle position   a: 0 up needle position; 1 lower needle position

2: choice of trimming   b: 0 no-trimming trimming 1 trimming

3: choice of start bartack   c: 0 no; 1 AB double; 2 ABAB four

4: choice of end bartack   d: 0 no; 1 CD double; 2 CDCD four

e	f	P 5
a	b	c d
▼ 1	▲ 2	▼ 3 4

2.3 Function parameter setting

Press the P key long to enter the function parameter setting state at the default interface.

Abcd postion show parameter value, can be modified by the key 34; ef postion show parameter index, can be modeified by key 12.

Press P can save the current parameter values,then exit the parameter setting mode. Press 1234 key short time,then update every time,press long time,update continuance and faster.

Note: When the system is running, can not enter the parameter setting mode; unless you exit the parameter setting mode, otherwise the system can not run.

2.4 System monitor state

Press the P key,at the same time press key 1 ,can enter this interface at the default interface.

JJ	Work pieces	DX	Bobbin thread value	1	Motor speed	2	Motor current	3	Bus voltage
4	Pedal voltage	5	mechanical angle	6	motor angle	7	Software Version	8	machine model

3. Error codes

Error Code	Contents	Possible reasons	Checking and treatment
E011 E012 E013 E014	Motor signal error	Motor position sensor signal failure	If electric engine plug is well contacted; if electric engine signal detecting device has been broken; if sewing machine handwheel correctly installed.
E015	Model type error	Unable identify operating box model type	Check operating box
E021 E022 E023	Motor overload	motor stall motor overload	If electric engine plug is well contacted; if machine head or thread-cutting mechanism has been blocked completely;f materials are too thick; Electrical signal detection signal whether the normal.
E101	Hardware drivers fault	Current detection abnormal Driving hardware error	Current detection loop system is working properly;Whether the damage to the device driver.
E111 E112	Voltage too high	High input voltage Brake circuit fault Voltage detection error	System into line voltage is too high; Braking resistance are working properly; System voltage detection circuit are working properly.
E121 E122	Voltage too low	Actual low voltage Voltage detection is wrong	If the voltage on the inlet wire is too low Whether the system voltage detection circuit the normal work.
E131	Current circuit fault	Current detection abnormal	Current detection loop system is working properly.
E133	Oz circuit fault	Oz circuit fault	Oz circuit system is working properly.
E151	Magnet circuit error	Over current magnet circuit	If machine head magnet suffers short circuit; Electromagnet circuit is working properly.
E201	over current	Current detection error	Current detection loop system is working properly; Electrical signal is normal.
E211 E212	Abnormal motor operation	Current or voltage detection error	If electric engine plug is well contacted; If electric engine signal is matched.
E301	Communication error	Sci circuit error	if operation box plug is well contacted; if operation box components are damaged.
E302	Operation inner failure	Sci circuit error	To check whether the operating box is damaged.
E402	Pedal ID fault	Pedal verification fault	Pedal connection is loosen.
E403	Pedal zero position fault	The pedal zero position over range	The pedal is damaged or it is not under stop state when correction.
E501	Safety switch fault	Safety switch effective	Put down the head or check turned up switch.
P.oFF	Power off Display	Power off	Wait for power supply to resume.

Note: 1. Sewing abnormal action (speed electromagnet work abnormal) : in the control interface view model is correct;

2. Turn up E501 fault when: sure it is normal to switch detection, temporary use can change the P-28 parameters;

3. If the above according to check the project cannot rule out fault, please seek technical support.

4. System parameter sheet

BEN: interlock   BEN2: cylinder bed interlcok sewing machine

BAO: overlock   PIN: lockstitch

No	Project	Content	Applicable models	Setting range	The default value	Level
1	Pedal the fastest	Set the maximum speed of the pedal	BEN BEN2	200~6000(rpm)	4000	I
			BAO	200~9000(rpm)	5000	
			PIN	200~5000(rpm)	2000	
2	Soft-start function	Low-speed sewing needle sewing start function 0: No soft-start function 1~9: Soft start stitches	BEN BEN2 BAO PIN	0~99	3	I
4	Fixed-length seam maximum speed	Set as long slit maximum speed	BEN BEN2 BAO	200~5000(rpm)	3500	I
			PIN		2000	
5	Sewing mode	The sewing mode setting (without a nose operation box) 0: Free sewing; 1: Simple Sewing; 2: Fixed stitches; 3: Overlapped sewing	BEN BEN2 BAO PIN	0~2	0	I
10	The number of steps of the fixed stitches		BEN BEN2 BAO PIN	1~7 (SEGMENTS)	1	I
11	Step 1 stitches	The number of steps of the fixed stitches (without nose operation box)	BEN BEN2 BAO PIN	1~99 (NEEDLE)	15	I
12	Step 2 stitches		BEN BEN2 BAO PIN	1~99 (NEEDLE)	15	I
13	Step 3 stitches		BEN BEN2 BAO PIN	1~99 (NEEDLE)	15	I
14	Step 4 stitches		BEN BEN2 BAO PIN	1~99 (NEEDLE)	15	I
15	Step 5 stitches		BEN BEN2 BAO PIN	1~99 (NEEDLE)	15	I
16	Step 6 stitches		BEN BEN2 BAO PIN	1~99 (NEEDLE)	15	I
17	Step 7 stitches		BEN BEN2 BAO PIN	1~99 (NEEDLE)	15	I
18	The fixed stitches one-shot mode	The fixed stitches one-shot mode (without nose operation box) 0: Invalid 1: Effective	BEN BEN2 BAO PIN	0/1	0	I
21	Soft-start speed 1	The first stitch speed	BEN BEN2 BAO PIN	100~3000(rpm)	600	I
22	Soft-start speed 2	The second stitch speed	BEN BEN2 BAO PIN	100~3000(rpm)	1000	I
23	Soft-start speed 3	The third stitch speed	BEN BEN2 BAO PIN	100~3000(rpm)	1500	I
24	Pressure decreased Jiaoruan function	Prevent damage to the fabric, slowing down the rate of decline of the presser foot set 0: Invalid 1: Valid	BEN BEN2 BAO PIN	0/1	0	I
25	Presser foot lift to enable	Presser foot lift enable set 0: Invalid 1: Valid	BEN BEN2 PIN	0/1	1	I
			BAO		0	
26	Enable automatic presser foot lift	Automatic presser foot lift can be set 0: Invalid 1: Shut down automatically when the presser foot lift	BEN BEN2 BAO PIN	0/1	0	I
27	Power-positioning	Power-on timing head first needle position automatic operation function is set0 0: Invalid 1: Valid	BEN BEN2 BAO PIN	0/1	0	I
28	Raising the safety switch signal mode	Head turned lift or safety switch signal mode is set 0: Normally open 1: NC 2: remove protection	BEN BEN2	0/1/2	1	I
			BAO PIN		0	
29	The pressure decreased Jiaoruan time	The pressure decreased Jiaoruan (the longer the presser foot drop, the slower time setting)	BEN BEN2 BAO PIN	50~500(ms)	300	I
30	Unit of bobbin thread counting down	Unit of bobbin thread counting down 0: Invalid 5/10/15/20: count5/10/15/20 stitches	BEN BEN2 BAO PIN	0/5/10/15/20	0	I
31	The bobbin thread initial total	The bobbin thread initial total	BEN BEN2 BAO PIN	200~4000	1600	I
35	Cutting rate	0: No function 1~20: Every cutting rate 1~20,workpiece plus 1	BEN BEN2 BAO PIN	0~20	1	I
36	Thread-cutting speed time	Thread-cutting speed setting	BEN BEN2	0~800(ms)	120	I
37	Thread wiping operation time	Thread wiping operation time	BEN BEN2	0~800(ms)	40	I
38	Thread-cutting delay time	Thread-cutting delay time setting	BEN BEN2	0~200(ms)	0	I
39	Thread wiping operation delay time	Thread wiping operation delay time setting	BEN BEN2	0~300(ms)	40	I
40	Presser foot delay time	Presser foot delay time	BEN BEN2	0~800(ms)	30	I
41	Slow speed	The pedal the lowest speed	BEN BEN2 BAO	100~400(rpm)	200	I
42	Pedal curve selection	Pedal speed control function to adjust; 0: Normal 1: Accelerate the slow; 2: Acceleration	BEN BEN2 BAO PIN	0/1/2	0	I
46	Delay Sewing time,when presser foot down	Delay Sewing time,when presser foot down	BEN BEN2 BAO PIN	0~800(ms)	200	II
47	Time of presser foot magnet full voltage output	Time of presser full voltage output	BEN BEN2 BAO PIN	0~800(ms)	150	II
48	Presser foot magnet voltage output duty cycle	Presser foot voltage output duty cycle	BEN BEN2	0~100	40	II
			BAO PIN	0~100	30	
49	Presser foot magnet lift holding time	Presser foot magnet lift holding time	BEN BEN2 BAO PIN	1~60(s)	12	II
69	Down needle position	Down needle position	BEN BEN2 BAO PIN	0~240	177	I
75	Needle position adjustment	Down needle positioning position ; this parameter interface can tread pedal running	BEN BAO PIN	0~240	0	II
			BEN2		120	
79	Parameter restore	Set to 5: Restore the current level of the factory parameters	BEN BEN2 BAO PIN	0~15	0	I
80	Sewing maximum speed	Sewing maximum speed	BEN BEN2	200~6000(spm)	5000	II
			BAO	200~9000(spm)	8000	
			PIN	200~5000(spm)	4200	
81	Lubrication prompts	0: Invalid; 50~1000: Suggestion time	BEN BEN2 BAO PIN	0~1000 (Hour)	0	II
83	Retry function	This function is used when needle cannot pierce materials. 0: Normal; 1: Retry function is provided.	BEN BEN2 BAO PIN	0~15	0	II
92	Pedal presser foot lift confirm time	Pedal presser foot lift confirm time	BEN BEN2 BAO PIN	10~300(ms)	80	II

5. accessory

NO	Product name	Amount	Specification	Confirm	Remarks
1	Pull rod	1			
2	Ctrolling box	1			
3	Pedal	1	PL-303		Including stand
4	Screws accessory box	1	WR596		
5	Using instruction	1			
6	Certifition	1			
7	Desiccant	1			