Full automatic integrated sewing series manual V1.9

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 lmin 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

A: 587/586 (Full automatic integrated Digital version) **B: 587C/CD** (Full automatic integrated Liquid crystal version)
C: 588 (Full automatic Less oil integrated Digital version) **D: 588C/CD** (Full automatic Less oil integrated Liquid crystal version)
E: 587H/586H (Full automatic Thick material integrated Digital version) **F: 587CH** (Full automatic Thick material integrated Liquid crystal version) **G: 587C/CD** (Full automatic integrated Liquid crystal version Public models) **H: 587CH/CHD** (Full automatic Thick material integrated Liquid crystal version) **I:589(** Full automatic Less oil 9813 Liquid crystal version)
L: 587Y (Fully automatic machine pressure foot built-in) **N: 587YH (**Fully automatic Thick material machine pressure foot built-in**)**

No	Project	Content	Setting range	The default value	model	Level
1	Sewing speed	Set sewing speed	200～5000rpm	3700	ABCDGIL	I
			200～3500rpm	3000	EFHJKN	
2	Soft-start function	1~9: Soft start stitches	1～9	1	All	I
3	Ornamental bartacks	0: Invalid 1: Effective	0/1	0	All	I
4	Fixed-length seam sewing speed	Set fixed-length seam sewing speed	200～4000rpm	3000	ABCDGIJL	I
			200～3500rpm	2500	EFHKN	
5	Simple sewing mode Settings	0: invalid 1: effectively	0/1	0	All	I
9	Back stitch speed limitation	can keep needle from breaking while backstitching	500～1500rpm	800	All	I
19	Solid after before sewing stop	0: unavailable 1: available	0/1	0	All	I
20	Setting of reverse sewing switch function	Reverse sewing switch mode 0: Only reverse sewing 1: Reverse sewing and fill needle 2: Only reverse sewing, standby without operating	0/1/2	0	All	I
21	soft start speed 1	speed of the 1st needle of soft start	100～3000rpm	400	All	I
22	soft start speed 2	speed of the 2nd needle of soft start	100～3000rpm	1000	All	I
23	soft start speed 3	speed of the 3rd~9th needle of soft start	100～3000rpm	1500	All	I
24	Presser foot soft lowering function	0: unavailable 1: available	0/1	0	ABCDEFGHIJK	I
				1	LN	
25	Presser foot lift function	0: unavailable 1: available	0/1	0	ABCDEFGHIJK	I
				1	LN	
27	Power on and positioning	0: unavailable 1: available	0/1	1	All	I
28	signal mode for turn/lift switch	Setting of signal mode of turn/lift switch of machine head 0: always open 1: always close 2:forbid a protection	0/1/2	0	All	I
29	Presser foot soft lowering time	To set presser foot soft lowering time The longer time the lower speed of the presser foot	50～500ms	300	ABCDEFGHIJK	II
			10～500ms	50	LN	
32	Decorative bar-tacking dwell time	To set decorative bar-tacking dwell time	5～500ms	50	ABCDGIJL	I
				100	EFHKN	
34	To select standard bar-tacking pedal speed mode	Standard bar-tacking pedal speed Mode selection 0: Auto bar-tacking speed ; 1: Pedal speed	0/1	0	All	II
35	By-piece rate setting	0: No by-piece function 1~20: Plus 1 to by-piece value for each set thread trimming	0～20	1	All	I
37	Thread wiping operation time	Thread wiping operation time	0～800ms	40	All	II
41	Low speed	The lowest speed of pedal	100～400rpm	200	All	I
42	Pedal curve selection	Pedal speed adjustment 0: normal 1: Slow acceleration 2: Quick acceleration	0/1/2	0	All	I
43	Dial the line that can set	0: unavailable 1: available	0/1	1	All	I
44	thread-cutting speed	thread-cutting speed	100～400rpm	280	All	I
45	Reverse sewing speed limit switch	Reverse sewing speed limit switch processing can prevent reverse sewing needle breakage 0: infinite speed 1: have the speed limit	0/1	0	All	I
46	pressor foot lifting delays sewing	delay with pressor foot lowered	0～800ms	200	ABCDEFGHIJK	II
				100	LN	
47	output time of total pressure of pressor foot lifting	output time of total pressure of pressor foot lifting	0～800ms	150	All	II
48	output duty cycle of pressor foot lifting hold time of pressor foot lifting	output duty cycle of pressor foot lifting forced shut-down after hold time of pressor foot lifting	0～100	30	All	II
				40		
49	output duty cycle of pressor foot lifting	output duty cycle of pressor foot lifting	1～60(s)	12	All	II
50	output time of total pressure of reverse-sewing	output time of total pressure of reverse-sewing	0～800ms	150	All	II
51	output duty cycle of reverse-sewing	output duty cycle of reverse-sewing	0～100	40	ABEFGHJKLN	II
				35	CDI	
52	hold time of reverse-sewing	forced shut-down after hold time of reverse-sewing	1～60(s)	12	All	II
53	starting reinforcing-sewing speed	starting reinforcing-sewing speed	100～3000rpm	1800	ABCDGIL	I
				1200	EFHN	
				500	JK	
54	starting reinforcing-sewing compensation 1	parameter of starting reinforcing-sewing stitch compensation	0～100	30	ABGJL	I
				35	CDI	
				58	EFHNK	
55	starting reinforcing-sewing compensation 2	parameter of starting reinforcing-sewing stitch compensation	0～100	10	ABGJL	I
				24	CDI	
				18	EFHKN	
56	ending reinforcing-sewing speed	ending reinforcing-sewing speed	100～3000rpm	1800	ABCDGIL	I
				1200	EFHN	
				500	JK	
57	ending reinforcing-sewing compensation 1	parameter of ending reinforcing-sewing stitch compensation	0～100	30	ABGJL	I
				35	CDI	
				58	EFHKN	
58	ending reinforcing-sewing compensation 2	parameter of ending reinforcing-sewing stitch compensation	0～100	10	ABGJL	I
				24	CDI	
				18	EFHKN	
59	ending reinforcing-sewing speed	ending reinforcing-sewing speed	100～3000rpm	1800	ABCDGIL	I
				1200	EFHN	
				500	JK	
60	continuous reinforcing-sewing compensation1	parameter of continuous reinforcing-sewing stitch compensation	0～100	30	ABGJL	I
				35	CDI	
				58	EFHKN	
61	continuous reinforcing-sewing compensation2	parameter of continuous reinforcing-sewing stitch compensation	0～100	10	ABGJL	I
				24	CDI	
				18	EFHKN	
62	Pedal travel upon start	Pedal position upon start Travel relative to medium pedal	10～50 (0.1°)	25	All	II
63	Pedal travel upon acceleration	Pedal position upon start acceleration Travel relative to medium pedal	10～100 (0.1°)	50	All	II
64	Pedal travel at highest rotation speed	Pedal position at highest rotating speed Travel relative to medium pedal	10～150 (0.1°)	110	All	II
65	Pedal travel upon presser foot lift	Pedal position upon pedal lift Travel relative to medium pedal	-100～-10 (0.1°)	-30	All	II
66	Pedal travel upon presser foot lowering	Pedal travel from presser foot lowering position to neutral position Travel relative to medium pedal	5～50 (0.1°)	10	All	II
67	Pedal travel 1 upon thread trimming	Pedal position upon start trimming without presser foot function Travel relative to medium pedal	-100～-10 (0.1°)	-30	All	II
68	Pedal travel 2 upon tread trimming	Pedal position upon start thread trimming with presser foot function Travel relative to medium pedal	-100～-10 (0.1°)	-60	All	II
69	Down needle positioning position	To adjust down needle position	120～240	175	ABEFGHJKLN	I
				177	CDI	
70	Reverse needle lift function	Reversal of needle lift function after thread trimming 0: unavailable 1: available	0/1	0	All	I
71	Reversal of needle lift angle	Reversal of needle lift angle	0～45°	20	All	I
72	Thread clamp strength adjustment	Adjust the thread clamp strength size 0: Clip line function is invalid 1~9: Three Intensity Adjustment	0～9	7	All	I
73	Thread pressing actuation angle	Thread pressing actuation angle	10～150°	100	All	I
74	Thread pressing release angle	Thread pressing release angle	160～300°	270	All	I
75	Needle position adjustment	Needle position adjustment	0～240°	105	ABEFGHJK	I
				112	LN	
				165	CDI	
79	return to factory-set parameter	5: restore the current level factory parameters 8: restore the current level and sewing factory parameter set According to S button, select yes, then press the S key execution	0～15	0	All	I
80	highest speed of sewing	highest speed of sewing	300～5000spm	4000	ABCDGIL	II
			300～3500spm	3000	EFHJKN	
83	Aggravating function/ Machine needle emphasis function	Needle wear through cloth when used 0: invalid; 1 ~ 15 strength regulation	0～15	0	ABCDEFGHIJ	II
84	Aggravating function	0: invalid; 1 ~ 15 strength regulation	0～15	0	LN	II
85	Suction angle of shear line	To set suction angle of shear line	150～200	175	All	II
86	Power angle of shear line	To set power angle of shear line	200～300	260	All	II
87	Release angle of shear line	To set release angle of shear line	300～360	340	All	II
88	loosen pressing actuation angle	loosen pressing actuation angle	150～250	180	I	I
89	loosen pressing release angle	loosen pressing release angle	200～360	350	I	I
92	Pedal presser foot lift confirm time	Pedal presser foot lift confirm time	10～300ms	80	All	II
93	The neutral position of the pedal	Trimming the neutral position of the pedal	-15～15(0.1)	0	All	II

3. System Info

Operation panel default mode, press the button at the same time in P made sewing needle trigger select key, enter the system monitoring state through the +-key choose need to look at the project, according to the S button to enter/exit the selected projects such as the need to exit monitoring interface, according to P keys can be.

show frame numbers	Item Name	unit		show frame numbers	Item Name	unit
JJ	Plan number	piece		U6	Motor initial Angle	limit
U1	speed of motor control	rpm		U7	Master control program version/ Head type	/
U2	Motor Current	0.01A		U8	Head type/ Master control program version	/
U3	Motor Voltage	V		U9	Dsp no	/
U4	Pedal voltage	0.01V		vEr	Operation box version of the program	/
U5	Mechanical Angle with	limit		TYPE	Software no	/

4.Operation box use

Function	Button	Described
Starting reinforcing-sewing		Execute starting reinforcing-sewing 2 times, to and fro.
		Execute starting reinforcing-sewing 1 times, to and fro.
ending reinforcing-sewing		Execute ending reinforcing-sewing 2 times, to and fro.
		Execute ending reinforcing-sewing 1 times, to and fro.
free-style sewing		Press treadle ahead for normal sewing, stop in the middle, behind for thread-cutting and thread wiping.
continuous reinforcing-sewing		1、Press treadle ahead for automatic sewing, to and fro, which is set at D and can reach 15times.(F) 2、Continuous reinforcing-sewing is in trigger mode by default, treadle doesn’t need to be kept being pressed, and corresponding trigger light of preset sewing is solid lit. 3、Previous ending reinforcing-sewing setting is invalid if this function is valid.
preset sewing		1.Press treadle ahead to execute sewing times set at E or E, F, G, H. 2.Sewing will stop immediately if treadle is lifted; press treadle again, it will go on with the rest. 3.Ending reinforcing-sewing (if selected), thread-cutting and thread wiping will be automatically executed after sewing is completed.
parameter setting		1.For preset sewing. Trigger treadle and the system will automatically conduct sewing at E, F, G, H sections; the treadle doesn’t need to be kept being pressed. 2.Solid light for continuous reinforcing-sewing mode means that it is trigger mode by default.
thread-cutting		Set or cancel thread-cutting function.
needle-lifting/stitch		Free sewing mode, can be based on the according to the length of time is different, complementary half needle, a needle or continuous feeding half needle.
Needle position		Set the needle position shortcut keys, Key is effective for needle, The cancel key function is set to stop pin。
The middle presser foot		Presser foot to set shortcut keys: set or cancel the presser foot function.
Shear line pressure foot		The shear line and presser foot set shortcut keys: set or cancel trimmer and presser foot function.
Soft start		Soft start to set shortcut keys: set or cancel the pedal soft start function.
Pinnumberset/check choice		1.Implementation of this key, circulating switch display 3 pin number to set the display value upper end:A、B、C、DPeriod of pin number,Light corresponding level; Middleend:E、FPeriod of pin number,Light corresponding level; lower extreme:G、HPeriod of pin number,Light corresponding level; 2.Corresponding to A D period of pin number, can set range 0 ~ 15 needle, B paragraph C pin number, can set range 1 ~ 15 needle, among them, the liquid crystal display A B C D E F on each for 10 11 12 13 14 15 stitches. 3. To take the thread clamp function model, according to the buttons can show long thread clamp strength adjustment (3 bright lights and three, liquid crystal display [7]), again according to the key exit.
parameter setting		1.Entering different parameter level On the sewing setting interface, the user can press the button P to enter the Parameter Interface, then the Level I parameters in the parameter list will display. On the sewing setting interface, the user can keep pressing the button for a few seconds to enter the Password Entering Interface. After entering the right maintenance password, then the user can press the button P to enter the Parameter Interface, now the Level I and Level II parameters in the parameter list will display. 2.Password setting On the sewing setting interface, the user can keep pressing the button P for a few seconds to enter the Password Entering Interface, and press the button combination of “burst button + soft start button” to enter the Password Resetting Interface. The three indicators (respectively are Indicator S1, S2 and S3 from left to right/before three lamp, among which one is on) corresponding to the button S indicates the current status. S1 lights up, old password input, ending the key combination trigger key + tangent key, if the correct password into the password reset interface (mistakes have stayed the S1 state), and at the same time S2 light, prompting the input new password and click confirm S3 S key input again when the light is the new password, according to S key after two input if consistent, then set success, return to parameter interfaceIf the new passwords entered are not the same, the Indicator S1 will be on and the LC screen will be reset, and the user shall enter the old password again. If the user presses the button P, the user will be brought back to the interface parameters and no modification will be saved. You can choose from the numbers of 0 to 9 or the letters of A to F for every single character of the password. Please do keep the new password in mind.
Teaching function		Set or cancel the teaching function. (for liquid crystal panel)
Sewing set program		The number of needles sewing set，Set up a total of 15 segment needle number P1~PF. (for liquid crystal panel)
Clip the line intensity		Clip the line strength fast set
speed key		Speed down. Keeping pressing to lower speed, the display will automatically switch to speed set. Simple seam, free seam effective. (Application of liquid crystal panel)
		Speed up. Keeping pressing to increase speed, the display will automatically switch to speed set.Simple seam, free seam effective. (Application of liquid crystal panel)

Teaching function:
In the long slot (a, four, program seam) mode, long press "T" one second, you can enter the teaching interface, this interface has buttons: T key, two groups of add-substract key, fill needle key. Role is as follows:
Add-substract key 12: change teaching segments, segment numerical only to accumulate (into the next section teaching automatically save the last needle numerical reduction), ’-’ key is invalid. Note: when the pedal operation, the key is invalid;
Add-substract key 34: modify teaching pin number, to stop running when the adjust pin number. Fill needle keys: press can manually fill needle, needle change.
T: exit show interface, complete the current segment number teaching (section numerical covering the original mode).
After the pedal shear line, will directly from the show and save the needle numerical, before returning to the fixed length of stitch pattern.

5. 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.
EvaL	Trial expired	Trial expired	Contact the dealer processing

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.

6. Accessories

NO	Product name	Amount	Product specification	Confirm	Remarks
1	Electric control box	1			
2	Ball section connecting rod	1			
3	pedal	1	PL-302		with bracket
4	screw	3	M5×25		screw
5	The instructions	1			
6	power cord	1			