

CONTROL PANEL MANUAL

TRECCIA 1F

Industrial flat bed interlock sewing machine



 *texi*

I. General Safety Instructions

1. Do not place your foot on the pedal while the control box and motor are switched on.
2. This product must be installed and commissioned by qualified professionals.
3. Do not open the control box or motor cover while the power is on.
4. Switch off the power before changing the needle, threading, or replacing the bobbin/under-thread.
5. Before installation, removal, or servicing, switch off the power and unplug the machine.
6. Switch off the power before tilting or lifting the sewing machine head.
7. Keep this product away from high-frequency electromagnetic fields and radio transmitters, as electromagnetic interference may cause incorrect operation of the servo drive.

Solemn Declaration:

1. The user is responsible for any consequences resulting from failure to follow the operating instructions and safety requirements in this manual.
2. Do not modify this product without authorization. The company accepts no responsibility for consequences arising from unauthorized modifications.

II. Product Introduction

This product was independently developed by our company and reflects an integrated mechatronic design. It combines energy saving, high efficiency, environmental performance and compact appearance, and can be used with a wide range of industrial sewing equipment.

1. Construction

The servo drive consists of two parts: the control system and the motor.

A. Control system: control box and pedal speed controller.

The control system is designed for simple operation and high performance, including fast start, quick and accurate stopping, and stepless speed control by the pedal. The electronic control provides protection against undervoltage, overcurrent, overvoltage and power loss.

2. Specifications

Voltage	220 V single phase
Frequency	50–60 Hz
Motor speed	200–4500 rpm
Motor torque	$\leq 2.2 \text{ N}\cdot\text{m}$

3. System key diagram



III. Control Panel Instructions

1. Functions of Each Key

No.	Function key	Function
1	 Menu button	Press key to cycle through the needle stop positions: - upper needle position ON (upper-position LED on), - lower needle position ON (lower-position LED on), - needle positioning OFF (both LEDs off). Press and hold to enter parameter menu.
2	 Confirm button	Confirms the parameter setting.
3	 Numerical adjustment key	Up key: increases the value / increases the speed.
4	 Numerical adjustment key	Down key: decreases the value / decreases the speed.
5	 Left key	Moves the cursor to the left when selecting parameter items.
6	 Right key	Moves the cursor to the right when selecting parameter items.
7	 Presser foot switch	Press once to enable automatic presser-foot lifting (optional); the corresponding LED lights. Press again to disable the function; the LED goes out. Press and hold key, then enter the password to access parameter modification.

8	 Suction switch	Press  once to enable the suction function (optional); the corresponding LED lights. Press again to disable the function; the LED goes out. Press and hold  key, then enter the password to access parameter modification.
9	 Machine LED button	 Press once to switch on the machine-head light; the LED lights. Press again to switch the light off; the LED goes out.

2. Entering Parameter Settings

Example: How to change the motor rotation from clockwise to counterclockwise.

Step 1: Switch on the power.

Step 2: Press and hold  key, then press the  key with the other hand.

The display shows P-00.

Step 3: Press the  key until P-02 is displayed.

P-02 is the motor rotation direction parameter (see the common parameter table).

Step 4: Press  to confirm and enter parameter edition. The display shows 1.

Step 5: Press  key to change 1 to 0. 1 = clockwise; 0 = counterclockwise.

Step 6: Press  key to save the parameter and exit edition.

3. Restore Factory Settings

Restore factory settings: Press and hold  key, then press the  key with the other hand. The display shows P-00. Press and hold the  key for about 3 seconds.

The factory settings will be restored (see the common parameter table for default values).

IV. Commonly Used Parameter Settings

Para. code	Parameter name	Adjusting range	Factory setting	Notes
P-01	Maximum speed limit	200–6500 rpm	4500 rpm	
P-02	Direction of rotation	0 = counterclockwise 1 = clockwise	1	
P-03	Needle-down stop angle	6–18°	12°	
P-04	Start sewing speed	200–800 rpm	250 rpm	
P-06	Fixed stitch count	0–999 stitches	0	
P-07	Unused			
P-08	Unused			
P-09	Unused			
P-10	Automatic break-in run	Change 0 to 1, then press S	0	Switch off the power to stop the break-in run.
P-11	Presser-foot lift start delay	0–2000 ms	0	
P-12	Presser-foot lift protection time	1–120 s	4 s	
P-14	Maximum current limit	50–1000	280	
P-15	Upper needle-position detection	1 = detect; 0 = do not detect	1	If set to 1 and no upper-position sensor is present, alarm ER01 is generated. Set to 0 to disable this alarm.
P-17	Factory reset code	1–3	1	P-17 appears only when parameter P-09 is enabled. Set to 3 and press and hold OK to restore the factory code.
P-18	Factory code	0000–9999	2013	
P-19	Soft-start stitch count	0–15	0	0 - disables the function. 1–15 enables soft start and sets the number of stitches (effective with upper needle stop).
P-20	Soft-start speed	200–3500 rpm	800	
P-21	Suction function	0 = off; 1 = on	1	Enables/disables suction while the motor is running.
P-22	Suction start stitch count	1–200	30	Number of stitches before suction starts (effective when P-23 stitch count is enabled).
P-23	Suction stop stitch count	0–200	0	
P-24	Suction action hold time	50–2000 ms	120 ms	This parameter is currently not used.
P-25	Suction full-power time	35–1000 ms	120 ms	
P-26	Suction full-power level	5–100%	100%	
P-27	Suction holding power	1–100%	80%	
P-28	Suction release time	0–500 ms	20 ms	

P-29	Suction protection time	1–120 s	30 s	Maximum duration of one suction cycle.
P-30	Presser-foot trigger mode	0 = off; 1 = on	0	0: heel-back operation does not lift the presser foot. 1: heel-back operation lifts the presser foot. The foot remains raised until the pedal is pressed forward or the protection time expires; it also lifts automatically whenever the motor stops.
P-31	Heel-back presser-foot lift start delay	0–2000 ms	0	Delay before the presser-foot lift starts after heel-back pedal operation.
P-32	Presser-foot lift action hold time	50–1000 ms	160 ms	This parameter is currently not used.
P-33	Presser-foot lift full-power time	35–1000 ms	160 ms	
P-34	Presser-foot lift full-power level	5–100%	100%	
P-35	Presser-foot lift holding power	1–500%	80%	
P-36	Presser-foot lift release time	0–120 ms	30 ms	Presser-foot release time.
P-37	Presser-foot lift protection time	1–100 s	10 s	Maximum holding time for one presser-foot lift cycle.
P-38	Display motor speed	200–6500 rpm		Displays the current actual motor speed.
P-39	Display speed-controller voltage	14–1010	Neutral point: 195	Displays the current speed-controller value 0–1024, corresponding to 0–5 V.
P-40	Display DC-bus voltage	60–500 V	310 V	An alarm is generated above 395 V. DC-bus voltage / 1.414 = AC-bus voltage.
P-41	Overvoltage protection switch	0 = off; 1 = on	1	0 - disables the overvoltage alarm; 1 - enables it. If DC-bus voltage exceeds 395 V, Er16 is displayed and the motor stops automatically. The motor can run again when voltage falls below 385 V.

V. Common Faults and Troubleshooting

No.	Error code	Error description	Possible causes / checks
1	Er01	No stop-position signal	1. Positioner signal plug is not connected properly. 2. Adjust the positioner sensor closer to the magnetic steel and keep a 1.0–1.5 mm gap.
2	Er02	Speed controller not detected	1. Speed-controller plug is not connected. 2. Speed-controller wire is broken.
3	Er03	Motor Hall sensor or phase wiring error	1. Poor contact at the 9-pin connector. 2. Motor is not installed correctly. 3. Hall sensor is faulty.
4	Er04	Motor stall protection	1. Motor overload. 2. Poor contact in the four-core cable between the motor and controller.
5	Er05	Hardware overcurrent protection	1. Motor overload. 2. Signal cable has poor contact or is broken.
6	Er07	Serial communication error	The signal cable between the display and the mainboard is faulty, or the mainboard is faulty.

VI. Environmental Requirements

1. Do not operate the machine in an excessively damp environment.
2. 220 V control system: the supply voltage must remain stable between AC 200 V and 260 V, single phase.
3. The machine must be properly grounded before use to ensure personal safety.
4. Do not operate the machine in excessively high temperatures.
5. Do not operate the control system or motor in strong magnetic fields or high-radiation environments, as interference may cause system malfunction.

NOTES

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Dealer:

