

TYPICAL YSC-8330

USER MANUAL

XI'AN TYPICAL INDUSTRIES CO., LTD.

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1. Notice

YSC-8330 is used in system of industry sewing machine. For perfect operation and safety, installation and operation must be supervised by professional.

- 1.1 Work environment
 - A Please use 220V AC in $\pm 10\%$ ranges.
 - ▲ To avoid the false operate, please keep the product away from the high electromagnetic interference.
 - A Please operate in the area which temperature is $5^{\circ}C \sim 45^{\circ}C$.
 - ▲ Please operate in the area which humidity is 80% or less.
 - ▲ Please keep the product away from the flammability and exploder.
- 1.2 Notice of installation
 - ▲ The control box should be installed correctly follow the instruction in this manual.
 - ▲ Turn off the power and unplug the cord before installation.
 - ▲ The wire must not set to be near the wheel and other movable parts.
 - ▲ To avoid the static interference and current leakage, all grounding must be done.
- 1.3 Notice of safety
 - ▲ Turn off the power before maintenance and repairs or raising the machine arms, or changing needle, or threading needle.
 - ▲ Please don't open the box except the professional.
 - ▲ When turn on the machine in the first time, use low speed to operate and check the correct rotation direction.
 - ▲ During machine operation, don't touch any moving parts.
 - ▲ All moving parts must use the protective device to avoid the body contact and objects insertion.
 - ▲ When there is water or other liquid, or caustic material on box or motor, you must stop operation and turn off the power.
 - ▲ All connector shouldn't be plug and unplug when power on.
 - ▲ The connector should be plug and unplug in the correct method.

Installation and Adjustment 2.

2.1 Control box



- 2.2 Speed controller
- 2.3 Dimension of speed controller bracket (direct-driven)

72.5mm





30mm

4-**Φ**6

- $\Phi 5$ Sign t LED socket-
- 2.5 Dimension of servo motor (direct-driven)



2.6 Dimension of servo motor (belt-driven)



2.7 Magnetic synchronizer



When install the wheel, the first hole must be vertical to the plane of the main axis.



2.8 Installation diagram of system



3. Power Connection

3.1 Single phase 220V power connection Ground wire (green & yellow) must be grounding.



3.2 Three phase 380V power connection



4. Connector Diagram



Attention: ^{/Q} for direct-driven is safety SW., and for belt-driven is Synchronizer.

5. Function of Front Panel



6. Function of Operation Box

P106 operation box diagram (P104 can also be used for YSC-8330)



Function	Key	Operation
Start Tacking	• 11	Double start tacking, A is the stitches of forth sewing; B is the stitches of back sewing. They are both in range 1~15.
Selection	• 141	Single start tacking, A is the stitches of forth sewing; B is the stitches of back sewing. They are both in range 1~15.
End Tacking	● ∠₀√	Double end tacking, C is the stitches of back sewing; D is the stitches of forth sewing. They are both in range 1~15.
Selection	● Pepel	Single end tacking, C is the stitches of back sewing; D is the stitches of forth sewing. They are both in range 1~15.
Free Sewing	•	 ▲ As the pedal is stepped forward, the start tacking(if selected) will be done automatically, then machine will start normal sewing. Once the pedal returned to balance, machine will stop immediately. ▲ As the pedal stepped backward, the end tacking, trimming and wiping(if selected) will be done automatically.
Bar Tacking Sewing		 Once the pedal is stepped forward, all the seams of bar tacking, A, B, C, D sections will be completed with E times, and the trimming will be done automatically. The pedal must be returned to balance for next sewing.
Single Constant-Stitch Sewing	A-C FG	 ▲ Once the pedal is stepped forward, F, G stitches will be completed. ▲ Three mode (A, B or C) could be selected.
Multi Constant-Stitch Sewing	E FG	 ▲ Once the pedal is stepped forward, F, G stitches will be completed with E times. ▲ Constant-Stitch Sewing will perform the

		number of segments and times as setting, when the stitches are zero, machine will stop immediately.		
Slow Start	• _	Slow start switch, see 7.7.		
Needle Up / Needle Down	• <u>11</u>	Select the stop position of needle.		
Trimming Enable	• ×	Enable or disable the trimming.		
Parameter Function	Ρ	Enter or exit parameter function interface.		
Setup Function	S	Confirm and save current value of parameter.		
Interface Selection	0	Switch current interface to another.		
One-Key Default / Lighting LED	₽⁄ゐ	See 7.3 and 7.10.		
Increase	Ð	Value increase.		
Decrease	0	Value decrease.		

7. Operation of the Normal Function Interface

The following opration could be valiable if normal function interface LED is on, other interface could be entered though

Parameter Setup ————

7.1 Parameter setup

Press P will be into parameter interface, using E+ and E- to select parameter type, using F+, F-, G+ and G- to select parameter index, value of current parameter will be displayed on bar A~D, using increase and decrease key can modify the value, as follow:



For example, the value of **S01** is 4000. The bar will be twinkling if modified, use **S** to confirm or **P** repeal change. After modifying, use **P** to back to sewing interface.

7.2 Parameter solidifying

If users want to change some parameter's default value, then select the parameter, press naintain a moment, after "SD OK" displaying, the default value has been changed.

7.3 Resumine parameter through One-Key Default

Select any parameter in parameter interface, 26 can be used to recall the default value. The bar will be twinkling if modified, use 5 to confirm or repeal change.

7.4 Access the special function parameter interface

Without any operation during power up, only S, T and A type parameter can be select. Press P during power up will display "O EN", and then O type parameter can be accessed.

7.5 Function of identifier

The machine type code (**O03**) is associated with identifier automatically, the parameter relative would refresh according to machine type. If any wrong be with the identifier, it can be disabled and set by manual, as below:

▲ Press **B+** during power up, "ID D" would be displayed then the identifier is disabled;

▲ Set **O03** to according with machine type;

▲ Set **O30** to be "ON" will re-enable the identifier function.

The default value of some parameters are different from machine type, as below:

Default Code	S01	S03	S04	S05	S06	T01	T02	A05	O20	
01	4000	2000	2000	2000	3000	42	45	OFF	ON	
02	3000	1800	1800	1800	2000	53	48	OFF	ON	
05	3500	1800	1800	1800	3000	42	45	OFF	ON	
06	2500	1500	1500	1500	2000	59	57	OFF	ON	
07	4000	2000	2000	2000	3000	41	36	ON	OFF	
08	3000	1800	1800	1800	2000	59	45	ON	OFF	
10A	4000	2000	2000	2000	3000	41	36	OFF	OFF	
11A	3000	1800	1800	1800	2000	59	45	OFF	OFF	
12	3500	1800	1800	1800	2000	45	31	OFF	OFF	
14	3500	1800	1800	1800	2000	57	46	OFF	OFF	

7.6 Adjust the tacking

7.6.1 Adjusting of RVE. SOL. action time

For start/end tacking or bar tacking, if unbalanced situation is appeared during natural direction to reverse direction, please correct it as below:



7.6.2 Adjusting of RVE. SOL. release time

For start/end tacking or bar tacking, if unbalanced situation is appeared during reverse direction to natural direction, please correct it as below:



7.7 Slow start function

If **be** effective, every new operation after trimming will run by slow speed for several stitches firstly, speed is relative with parameter **S08**, stitch is relative with parameter **O01**.

7.8 Resume the default value of all parameters

Set parameter **O17** to "ON", turn on the power again, after twinkling of "INIT" finished, all parameters have been default value themselves.

7.9 Encrypt the parameter interface

First change parameter **O27** for user's password, then set parameter **O15** "ON" to enable password, after this, accessing to parameter interface will be in password interface firstly, set the correct password and use **S** to confirm.

7.10 Function of Machine LED

The lighteness of LED can be set by *in sewing interface, the lighteness increase 20% each press, if 100% already, turn to 0%, and so on.*

8. Operation of the Special Function Interface

Press O could be access special function interface from normal function interface, showed as below:

Function

Bar A and B according to SN of function, bar D~G display parameter, press B+ and B- to select function:

8.1 Dynamic speed limitation



SN F1, display current speed up limitation, could be change during running.

8.2 Counting the product quantity



SN F2, display the product quantity, increase for 1 after trimming.

8.3 Stitch length



SN F3, according to actual stitch length.

8.4 Different ratio



SN F4, while using puller, display the different ratio for stitch length.

8.5 Actual speed display



SN F5, display the actual speed.

8.6 Stitches statistic



SN F6, display the stitches statistic of each working procedure.

8.7 Current time of power-on



SN F7, for example, current time of power-on is 6 hours and 13 minutes.

8.8 Total time of power-on



SN F8, for example, total time of power-on is 130.8 day.

8.9 Total idle time



SN F9, for example, total idle time of power-on is 12.5 day.

8.10 Total working time



SN FA, for example, total working time of power-on is 118.3 day.

8.11 Using efficiency



SN FB, for example, current using efficiency is 90.4%.

9. General Parameter Table (part)

9.1 Speed parameter

SN	Name	Range	Default	Description
S01	Max speed	500~5000 (s/m)	See 7.5	Maximum speed.
S02	Min speed	150~500 (s/m)	150	Minimum speed.
S03	Speed of start tacking	500~2500 (s/m)	See 7.5	Speed of start tacking.
S04	Speed of end tacking	500~2500 (s/m)	See 7.5	Speed of end tacking.
S05	Speed of bar tacking sewing	500~2500 (s/m)	See 7.5	Speed of bar tacking sewing.
S06	Speed of C-S sewing	500~4500 (s/m)	See 7.5	Speed of constant-stitch sewing.
S07	Trimming speed	150~300 (s/m)	200	Speed of trimming.
S08	Slow sewing speed	200~500 (s/m)	400	Slow sewing speed when start.

9.2 Time parameter

SN	Name	Range	Default	Description
T01	RVS action time	1~200 (ms)	See 7.5	Action time of the REV SOL.
T02	RVS release time	1~200 (ms)	See 7.5	Release time of the REV SOL.
Т03	Delay time of wiper	1~200 (ms)	20	Timing before the wiper solenoid act.
Т04	Action time of wiper	1~200 (ms)	30	Timing for the wiper solenoid action.

TOF	Delay time of foot	1~500	10	Timing before the foot lifter solenoid is
105	lifter	(ms)	10	act.
тос	Release time of	1~500	50	Timing before the foot lifter solenoid is
100	foot lifter	(ms)	50	released.
T07	Time of foot lifter	1~999	500	Timing of the foot lifter solenoid is act
107	whole output	(ms)	500	with whole output.
тоо	Time of RVS	1~999	450	Timing of the reverse solenoid is act
108	whole output	(ms)	150	with whole output.
T 40	Time of remove	1~500	10	The speed controller will be greater
110	shake	(ms)	10	sensitive when the value is smaller.

9.3 Enable parameter

SN	Name	Range	Default	Description
A01	Up position	ON~OFF	ON	ON: the stop position is up OFF: the stop position is down
A02	Automatically sewing	ON~OFF	ON	Valid only in constant-stitch sewing, when set to "ON", enable the automatic sewing.
A03	mode of stitch correction	ON~OFF	OFF	ON: continual OFF: half needle
A04	Stitch correction with single button	ON~OFF	OFF	For free sewing, if there is single switch on machine arms, when set to "OFF" the switch is reverse switch always. When set to "ON", the switch is reverse switch at sewing and is stitch correction switch at stop.
A05	Stitch correction with double button	ON~OFF	See 7.5	When set to "ON", enable the reverse and stitch correction switch both are valid. When set to "OFF", disable the double key be valid at the same time, and in this mode, the function of the single switch is determined by A04 .
A06	Trimming	ON~OFF	ON	When it is "ON", enable the trimming.
A07	Wiping	ON~OFF	ON	When it is "ON", enable the wiping.

				When A06 is "OFF", A07 is invalid.
				When it is "ON", enable foot lift. Whether
A08	Foot lift	ON~OFF	ON	the foot SOL to be connected is detected
				during power on automatically.
A09	clamp	ON~OFF	OFF	"ON" to enable clamp, only for GC6280.
				When it is "ON", the pedal must be back
A14	Trimming	ON~OFF	ON	to the balance position to do next
A14	protection			operation after trimming, "OFF" to be no
				required.
	Foot lift after			When A08 is "ON", if A15 is set to "ON",
A15	trimming	ON~OFF	OFF	the foot lifter will lift automatically after
				trimming.
				It is valid only for constant-stitch sewing.
	The first			If enable automatic sewing mode and set
				the start tacking, the next segment of
A16	segment keep			automatically after the start tasking is
AIO	start tacking of			finished when it is "ON" When it is "OFF"
	C-S sewing			or disable the automatic sewing mode
	e e counig			machine will stop automatically after the
				start tacking is finished.
				It is valid only for constant-stitch sewing.
				If enable automatic sewing mode, the
	The end			automatically after the last segment of
	tacking keep			constant-stitch sewing is finished when it
Δ17	on with the last	ON~OFF	ON	is "ON". When it is "OFF" or disable the
	seament of			automatic sewing mode, machine will
	C-S sewing			stop automatically after the last segment
	-			of constant-stitch sewing is finished. The
				end tacking and trimming will do until
				step forward the pedal again.
A 4 0	Move to up		055	When it is "ON", the machine will move to
A18	position after	UN~UFF	UFF	up position and stop automatically as

	power on			power on.
A19	Foot lifer acting in foot lift position	ON~OFF	ON	When the pedal is half back toe down, if it is "ON", the position is foot lift. If it is "OFF", the position is to be balance.
A20	Trimmer acting in foot lift position	ON~OFF	OFF	When it is "ON", the trimming will at the foot lifter position.
A21	Soft start	ON~OFF	OFF	When it is "ON", it will do a soft start after trimming.

9.4 Degree parameter (can be accessed by press P during power on)

SN Name Default Descriptions Range 0~359 D01 Up lever 60 Up lever degree. (°) 0~359 D02 Down lever 215 Needle bar down degree. (°) 0~359 Trimmer act Trimmer act degree. D03 250 (°) Trimmer $0 \sim 359$ D04 0 Trimmer release degree. (°) release $0 \sim 359$ Reverse SOL. act degree. D05 Reverse act 300 (°) Reverse $0 \sim 359$ D06 300 Reverse SOL. act release degree. (°) release 0~359 Clamp act Clamp act degree. D07 180 (°) 0~359 Clamp release degree. Clamp release **D08** 270 (°) 0~359 D09 Puller start 50 Puller starts degree per round. (°) 0~359 D10 Puller end 120 Puller stops degree per round. (°)

9.5 Special function parameter (can be accessed by press P during power on)

SN	, Name	Range	Default	Descriptions
011	Hamo	rtango	Doladit	The stitches of slow sewing at start
001	Stitches of slow	0~10	3	when trimming is finished. The
001	sewing at start	(needle)	C C	speed of slow sewing is set in S08 .
O03	Machine type	1~30	See 7.5	According to the machine type.
				The duty cycle of PWM for signal of
O05	Duty of foot lifter	10~99		foot lifter solenoid. The power will be
	output	(%)	50	greater if this value is bigger, at the
				same time, the heat is more.
				When it is "ON", the foot lifter
O06	Foot lifter release	ON~OFF	ON	solenoid will be released
	limed			automatically after the time desired.
				When it is "ON", the RVS solenoid
O06	RVS release timed	ON~OFF	ON	will be released automatically after
				the time desired.
015	Parameter encrypt	ON~OFF	OFF	See 7.9.
017	Initialization of		OFF	Sec. 7.9
017	parameters	UN~UFF	OFF	See 7.0.
022	Running time of	160(s)	5	The running time of aging test
023	aging test	1~00(3)		The furning time of aging test.
O24	Idle time of aging	1~60(s)	5	The idle time of aging test.
	test			
O25	Total time of aging	1~255	1	The total time of aging test. It will be
	test	(h)		stopped when reached the time.
O26	Aging test enable	ON~OFF	OFF	"ON" to active the aging test.
027	User's password	0~9999	1234	See 7.9
O30	Identifier enable	ON~OFF	ON	See 7.5.
031	Safety SW enable	ON~OFF	See 7.5	"ON" to enable the safety switch
001			0007.0	function.
O32	Safety SW. mode	0~1	1	0: Normal close, 1: Normal open.

10. Measurement of Error and Warning

Error	Causation	Measurement						
code								
E01	Voltage is too high	Check the AC power.						
E02	Voltage is too low	Check the AC power.						
E05	Break ineffective	Replace break resistor.						
E08	Load is too heavy	Check the load.						
E09	Speed controller error	Check speed controller, see 11.1.						
E10	Position check error	Check synchronizer, see page 11.2.						
E13	Machine type error	Check identifier, see 7.5.						
E14	Trimmer SOL. error	Check SOL. whether direct short.						
E15	REV SOL. error	Check SOL. whether direct short.						
E16	Wiper SOL. error	Check SOL. whether direct short.						
E17	Foot lifter SOL. error	Check SOL. whether direct short.						
PEdL	Pedal warning	Release the pedal to balance position.						
co_c	Cofety CM/warning	Check Safety SW., or set O32 to match						
ίης	Salety Svv warning	the machine type.						
Ο	Inspector disconnected	All automatic functions will be no						
J	warning	effective.						

11. Signal Checking

Press s during power on, it will display "TEST" and then enter the mode of Measurement of Input Signal. Bar A show the SN.

11.1 Speed controller



Display of the different pedal position as below:

Display code	Meanings	Descriptions			
FS02~FS99	High speed	The second segment forward, pull is 02~99.			
LS01	Low speed	The first segment forward, pull is 01.			
BL Balance		Default.			
FP	Foot lifter	The first segment backward.			
TM	Trimming	The second segment of backward.			

ERRO	Fault	Speed controller fault or disconnected.
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11.2 Synchronizer



Bar D and E denote the up position, bar C and D denote the down position. Turn the hand wheel by hand equably, display of different position as below:

Display code	Meanings	Descriptions			
UP	Needle up position	In up position.			
DW	Needle down position	In down position.			
	Other position	Neither in up or down position.			
ERRO	Fault	Both in up and down position.			

11.3 Switch



G -- Safety SW.

11.4 Hall signal of motor



Turn the hand wheel by hand equably, display the hall signal of motor, range is 0~7. If the fault state appeared, then display "ERRO".

11.5 Encoder signal of motor



Turn the hand wheel by hand equably, display the encode count of motor, the error is ± 5 normally.

11.6 Solenoid



Through D+, D-, E+ and E- to select the SOL, use G+ to test, as below:

Display code	SOL	Display code	SOL		
ТМ	Trimmer SOL	RV	REV SOL		
WP	Wiper SOL	FP	Foot Lifter SOL		

11.7 Identifier



Display the code of identifier, see page 16. Display "ERRO" while fault.

11.8 Version of software



For example, the version is v 1.00.

11.9 AC power



Display the current AC power is 220V.

11.10 SOL. DC power



Display the current SOL. DC power is 31.2V.

11.11 Machine degree



First to setup zero point, use **C+ or C-** to change degree type, turn hand wheel equably, display the current degree.

Zero point (display "ZO")

Turn hand wheel to top dead center, and then press **S** to set zero degree point.

Up lever (display "UP")

Turn hand wheel to up lever, press **S** to save current degree to up lever position. If display is equal to existent parameter, a twinkling "O" will be

displayed in bar D.

The setup of other degree parameters are same with above.

- Down lever (display "DW")
- Trimmer act (display "TA")
- Trimmer release (display "TR")
- Reverse act (display "RA")
- Reverse release (display "RR")
- Clamp act (display "CA")
- Clamp release (display "CR")
- Puller start (display "PS")
- Puller stop (display "PE")

12. Review the History Errors

The system can save the error code automatically when error occurred. Checking the history error by operation as below:

▲ Press **D+** during power on to access the history errors interface;



- Press A+ and A- to check the 10 error code of recent, Display "NO" if there is no error;
- ▲ Bar C refer to the error index, bar D~G display the message, as below:

Index	Message				
A	Error code				
В	AC power of the time				
С	DC power of the time				
F	Speed of the time				
G	Year of the time, such as 2008				
Н	Date of the time, for example, 0804 indicate Aug. 4				
I	Time of the time, for example, 1510 indicate 15:10				

Appendix I: 7-segment Display Characters Compare Table

Arabic Number

Actual	0	1	2	3	4	5	6	7	8	9
Display					ا_ا	5	Б			

English Alphabet

Actual	А	В	С	D	Е	F	G	н	I	J
Display							LD		I	
Actual	К	L	М	Ν	0	Ρ	Q	R	S	Т
Display	Ŀ			1-1		0_		-	۱_	
Actual	U	V	W	Х	Y	Ζ				
Display		I_I	Ŀ		ŀ					

Appendix II: How to adjust the speed controller

If the magnet in speed controller has been replaced, or installation position of PCB has been changed, new adjustment should be performed.

Each position showed as below:



Balance position





Foot lifter position



Farthest position backward

Farthest position forward

Steps of adjustment showed as below:

- Push the switch on PCB of speed controller during the power on;
- Release the switch, after setting the speed controller to balance position, press the switch once;
- After setting the speed controller to the farthest position forward, press the switch once again;
- After setting the speed controller to the foot lifter position, press the switch once again;
- After setting the speed controller to the farthest position backward, press the switch once again;
- After all, the adjustment is accomplished, all function would be normal after power on again.

Appendix III: How to update the control box with the update module

User could update software of control box by update module if necessary, the operations showed as below:

- Turn off the power, plug the update module into identifier socket H, then power on again;
- The error code "E 23" would be displayed if not matching;
- "UM xxx" would be displayed if matching, and xxx denote version of update module;
- Press **S** to start update procedure, it will be accomplished after "UM ok" displayed. All procedure will take in half minute. Then Turn off the power and plug the identifier, all function would be normal after power on again.

Add: No.1 Taibai South Road, Xi'an, P.R.China-710068 Tel: +86-29-88279162 88279163 Fax: 029-88279161 83911111

E-mail: typical@chinatypical.com

Http://www.chinatypical.com

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