

三針 KD 系列使用說明書



前言

使用前請詳閱本說明書，如果在使用上有任何疑問，歡迎隨時與本公司聯繫。



注意：
此標示符號表示錯誤的機械安裝、操作及保養，恐會導致人員受傷或機器損壞！

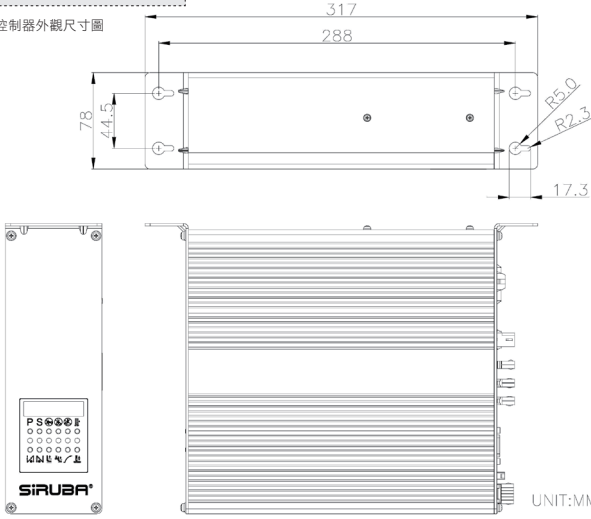
- 安裝及維修作業請由專業人員處理。
- 禁止將本產品暴露在有水氣、腐蝕性氣體、可燃性氣體等物質的場所下使用，否則可能會造成觸電或火災。
- 請確保產品使用場合與要求的電氣規格符合，避免機器損壞。
- 電源線的接地線需確實連接到工廠接地線，接地不良可能會造成人員觸電。
- 在進行操作前準備如穿針線時或是調適機器與維修安裝時，請務必關閉電源。
- 控制器電源線插入電源端時，請確認控制器開關電源為關閉狀態。
- 在運轉中請不要觸摸控制器之散熱片，否則可能會因高溫而發生燙傷。
- 控制器關閉後，內部可能仍有高電壓。開關控制器應有 1 分鐘以上間隔，開啟控制盒須注意安全。
- 務必使用本公司提供或認可的零部件維修。

系統規格

馬達類型	交流永磁同步馬達
電源電壓	AC 176~264V 50/60 Hz
額定輸入功率	600W
輸出轉速	200 ~ 6500 RPM
額定輸出扭矩	0.954 N·m
工作環境溫度	0-50degC
絕緣耐壓	AC 1500V / 1min
絕緣電阻	DC 500V, 100M 歐姆以上

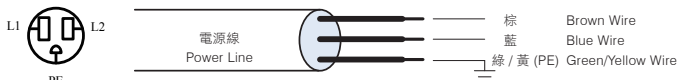
產品介紹

控制器外觀尺寸圖



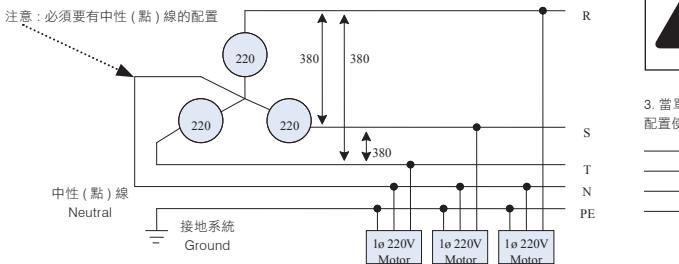
接地與接線

1. 單相電源接線方法



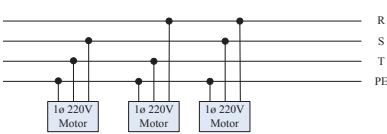
2. 當電源系統配置為三相四線式 380V 時，欲使用單相 220V 供應本控制器的接線放式

注意：必須要有中性（點）線的配置



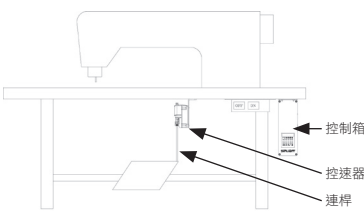
注意：
如果此配置系統沒有【中性（點）線】時，則單相 220V 的同服馬達不適合在此場所使用。

3. 當單相 220V 同服電機欲使用在三相 220V 的電壓時，須注意配置使用上的平衡。

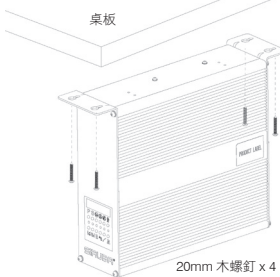


操作介面及安裝說明

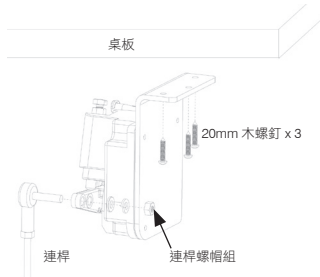
控制器安裝示意圖
安裝位置



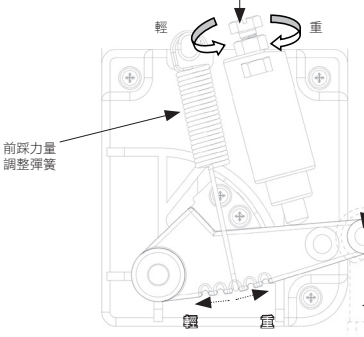
控制器安裝方式



控速器安裝方式



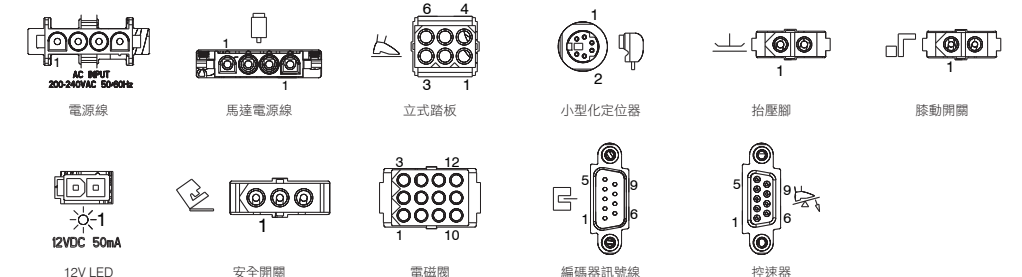
控速器調校方式



在進行控速器調校前，請務必關閉電源。

調整項目	調整方式
踏板前踩力量調整	(1) 將調整彈簧往右移，前踩力量越"重" (2) 將調整彈簧往左移，前踩力量越"輕"
踏板後踩力量調整	(1) 將調整螺栓順時針轉動，後踩力量越"重" (2) 將調整螺栓逆時針轉動，後踩力量越"輕"
踏板行程調整	(1) 將連桿安裝於右側孔中，踏板行程較"長" (2) 將連桿安裝於左側孔中，踏板行程較"短"

外部連接器連接說明



CN101 電源線	CN201 馬達電源線	CN701 立式踏板	CN476 小型定位器
1 L 藍	1 U 紅	1 +12V -	1 Signal -
2	2 V 白	2 START 起離閥開	2 Pull High -
3 N 棕	3 W 黑	3 VC 可變電壓控制	3 NC -
4 PE 黃 / 綠	4 PE 黃 / 綠	4 INF 壓腳開關	4 NC -
		5 0V -	5 +5V -
		6 TIMMER 切線開關	6 0V -

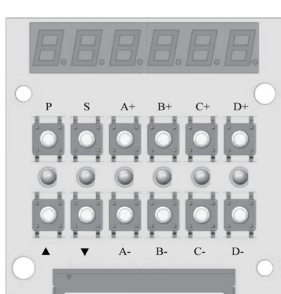
CN661 抬壓腳 / 膝動開關	CN821 12V LED	CN761 安全開關
1 Foot1(+) -	1 0V -	1 +5V -
2 Foot2(-) -		2 Safe_sw -
3 0V -	2 +12V -	3 0V -
4 Knee_sw -		

CN681 電磁閥	CN476 馬達編碼器訊號線	CN476 控速器
1 TRIM 切線電磁閥 / 鐵	1 A+ -	1 Signal -
2 CS_1(+) 密縫電磁閥 / 鐵	2 B+ -	2 - -
3 +24/30V	3 Z+ -	3 - -
4 WIPER 掃線電磁閥 / 鐵	4 +5V -	4 - -
5 CS_2(-) 密縫電磁閥 / 鐵	5 0V -	5 0V -
6 +24/30V	6 U+ -	6 +3.3V -
7 TENSION 鬆線電磁閥 / 鐵	7 V+ -	7 SWCLK -
8 OP OP 電磁閥 / 鐵	8 W+ -	8 +5V -
9 +24/30V	9 - -	9 SWDAT -
10 OP_SW OP 開關		
11 -		
12 0V GND		

註：24V 應用於電磁閥，30V 應用於電磁鐵。

操作面板操作設定

按鍵說明



一般模式之按鍵功能說明

P	進入參數選擇層
S	進入參數調整層
▲	無功能
▼	無功能
A+	半後踩功能設定鍵
	車縫停止後自動抬壓腳設定鍵
B+	切線功能設定鍵
	切線後自動抬壓腳設定鍵
C+	掃線功能設定鍵
	慢速起縫設定鍵
D+	定寸縫功能設定鍵
	車縫停止時針上 / 下設定鍵

參數調整模式之按鍵功能說明

P	進入參數選擇層	S	進入參數調整層
▲	參數選擇遞增	▼	參數選擇遞減
A+	千位參數值遞增	A-	千位參數值遞減
B+	百位參數值遞增	B-	百位參數值遞減
C+	十位參數值遞增	C-	十位參數值遞減
D+	個位參數值遞增	D-	個位參數值遞減

參數設定模式說明

1. 在一般模式下長按 P 鍵可進入參數選擇模式。
2. 利用 ▲、▼ 按鍵選擇參數模式。
3. 按 S 鍵 進入參數調整模式。
4. 利用 A+、B+、C+、D+、A-、B-、C- 和 D- 按鍵進行增減設定參數。
5. 按 S 鍵回到一般模式 / 或按 P 鍵回到參數選擇模式。

故障排除

選針盒顯示錯誤碼	異常現象說明	解決措施
Err 0	控速器錯誤	1. 關閉電源。 2. 請檢查控速器是否脫落、鬆動、破損。 3. 排除後重新送電，若仍無法正常運轉，請更換控速器並通知廠商。
Err 1	過電流保護	1. 關閉電源。 2. 確認 IPM 模組 (IC201) 阻抗是否正常。 3. 一分鐘後重新送電。控制器若仍有錯誤碼顯示，請更換控制器並通知廠商。
Err 4	過電壓保護	1. 關閉電源。 2. 確認 IPM 模組 (IC201) 阻抗是否正常。 3. 一分鐘後重新送電。控制器若仍有錯誤碼顯示，請更換控制器並通知廠商。
Err 5	低電壓保護	1. 關閉電源。 2. 請檢查是否插錯供應電源或電壓過低。 3. 如電壓過低，則待電壓回復正常後重新開機。如無，則一分鐘後重新送電。 4. 控制器若仍有錯誤碼顯示，請更換控制器並通知廠商。
Err 7	堵轉檢知延遲	1. 關閉電源。 2. 檢查馬達動力線插頭配線是否接觸不良。 3. 是否有異物纏繞機頭、其他機械結構干涉異常、或妨礙物是否過厚。 4. 排除後重新送電，若仍無法正常運轉，請通知廠商。
Err 10	電磁閥短路保護	1. 關閉電源。 2. 檢查電磁閥開關接線是否有錯誤或電磁閥開關是否短路。 3. 排除後重新送電，若仍無法正常運轉，請通知廠商。
Err 11	內部通訊異常	1. 關閉電源，2 分鐘後重新送電。 2. 控制器若仍有故障碼顯示，請通知廠商。
Err 20	馬達驅動晶體溫度過高	1. 關閉電源，10 分鐘後重新送電。 2. 控制器若仍有故障燈顯示，請通知廠商。
Err 21	馬達編碼板異常	1. 關閉電源。 2. 檢查馬達編碼器連接線是否接觸不良或馬達編碼器是否故障。 3. 排除後重新送電，若仍無法正常運轉，請通知廠商。
Err 22	溫度感測器異常檢知	1. 關閉電源，10 分鐘後重新送電。 2. 控制器若仍有故障燈顯示，請通知廠商。
Err 23	小型化定位器異常	1. 關閉電源。 2. 檢查小型化定位器連接線是否接觸不良或小型化定位器是否故障。 3. 排除後重新送電，若仍無法正常運轉，請通知廠商。
Err 24	電磁閥電壓異常保護	1. 關閉電源，10 分鐘後重新送電。 2. 控制器若仍有故障燈顯示，請通知廠商。
Err 26	控制器輔助電源溫度過高	1. 關閉電源，10 分鐘後重新送電。 2. 控制器若仍有故障燈顯示，請通知廠商。
Err 27	控制器輔助電源溫度過高	1. 關閉電源，10 分鐘後重新送電。 2. 控制器若仍有故障燈顯示，請通知廠商。
	安全開關檢知延遲	一般模式下，旋轉行號不轉動時： 1. 關閉電源，檢查縫紉機安全開關 (CN761) 是否故障。 2. 排除後重新送電，若仍無法正常運轉，請通知廠商。

參數設定詳細步驟

1. 在一般模式下，長按 P 鍵可進入參數選擇模式。
2. 利用增加鍵▲、▼選擇參數。
3. 按 S 鍵進入參數調整模式。
4. 利用增減鍵 D+、D- 設定參數。
5. 按 S 鍵回到一般模式 / 或按 P 鍵回到參數選擇模式。

顯示器對照表

數值	顯示	數值	顯示
0	0	A	A
1	1	B	B
2	2	C	C
3	3	D	D
4	4	E	E
5	5	F	F
6	6	G	G
7	7	H	H
8	8	I	I
9	9	J	J
		K	K
		L	L
		M	M
		N	N
		O	O
		P	P
		Q	Q
		R	R
		S	S
		T	T
		U	U
		V	V
		W	W
		X	X
		Y	Y
		Z	Z

參數說明

參數	參數功能	設定範圍	出廠值	說明
1	馬達速度	200~6000	4500	最高車縫速度調整，單位 (Unit): rpm
2	慢速起縫模式	A/T	T	A: 往前輕觸踏板時，自動執行慢速起縫。 T: 切線動作結束後下一次執行車縫動作時，自動執行慢速起縫。
3	計數比例選擇	1-100	1	設定計數，為 "043" 的倍數值，實際值為 "003" x "043"。 當 "042" 設為 UTS 模式時無效，固定為 1 倍。
4	起始回縫速度	200~4500	1800	單位 (Unit): rpm
5	終止回縫速度	200~4500	1800	單位 (Unit): rpm
6	連續回縫速度	200~4500	1800	單位 (Unit): rpm
7	慢速起縫速度	200~3000	400	單位 (Unit): rpm
8	慢速起縫針數	0~99	2	
9	自動定寸縫速度	200~6000	4500	單位 (Unit): rpm
10	定寸縫後自動執行終止回縫	ON/OFF	ON	ON: 在執行完最後一段定針縫後，即自動執行終止回縫或切線動作。 OFF: 再執行完最後一段定針縫後，將無自動執行終止回縫或切線動作 (需要後踩才可執行終止回縫或切線。)
12	起始回縫模式類別	A/M/SU/SD	A	A: 往前輕觸踏板，即自動執行起始回縫段針數。 M: 受踏板控制可任意控速與停止。 SU: 於各段轉角處自動暫停針上後，始繼續執行下一段針數，暫停時間由參數 "027" 調整控制。 SD: 於各段轉角處自動暫停針下後，始繼續執行下一段針數，暫停時間由參數 "027" 調整控制。
13	起始回縫結束點操作模式	CON/STP	CON	CON: 執行完起始回縫段針數後，即自動連續執行下一段的功能設定。 STP: 執行完起始回縫段針數後，必須再次前踏後始恢復一般功能。
14	起始回縫功能	ON/OFF	OFF	
15	起始回縫 A 段車縫針數	0~15	3	
16	起始回縫 B 段車縫針數	0~15	3	
17	起始回縫回數	0~4	2	
18	起始回縫 A 段針數補償	00~0F	4	
19	起始回縫 B 段針數補償	00~0F	3	
20	終止回縫模式	A/SU/SD	A	A: 車縫後觸動全後踏功能，即自動執行完終止回縫段針數。 SU: 於各段轉角處自動暫停針上後，始繼續執行下一段針數，暫停時間由參數 "027" 調整控制。 SD: 於各段轉角處自動暫停針下後，始繼續執行下一段針數，暫停時間由參數 "027" 調整控制。
21	終止回縫功能	ON/OFF	OFF	
22	終止回縫 C 段車縫針數	0~15	3	
23	終止回縫 D 段車縫針數	0~15	3	
24	終止回縫回數	0~4	2	
25	終止回縫 C 段針數補償	00~0F	2	
26	終止回縫 D 段針數補償	00~0F	1	
27	自動回縫段落停止時間	0~999	50	單位 (Unit): ms
28	起始 / 終止回縫針數設定	ON/OFF	OFF	ON: 有效, OFF: 無效
29	起始 / 終止回縫針數補償	0~99	0	當執行起始或終止回縫功能時，在各段的設定針數內自動追加 0~99 針 (註: 需在 "028" 為 ON 時才有效)
30	終止回縫 C 段多加 1 針	ON/OFF	OFF	ON: 當執行終止回縫功能時，再第一段的 C 段內自動追加一針。 OFF: 無效
31	自動連續回縫運動模式	A/M/SU/SD	A	A: 往前輕觸踏板，即自動執行完起始回縫段針數。 M: 受踏板控制可任意控速與停止。 SU: 於各段轉角處自動暫停針上後，始繼續執行下一段針數，暫停時間由參數 "027" 調整控制。 SD: 於各段轉角處自動暫停針下後，始繼續執行下一段針數，暫停時間由參數 "027" 調整控制。
32	連續回縫功能	ON/OFF	OFF	
33	連續回縫 A 段針數	0~99	4	
34	連續回縫回數	0~15	4	
35	連續回縫 B 段針數	00~0F	4	
36	連續回縫 C 段針數	00~0F	3	
37	定寸縫模式	A/M	M	A: 前踏即動作 M: 由踏板控制且馬達可中途停止
38	定寸縫 (15 段) 選擇	ON/OFF	OFF	
39	定寸縫針數設定	0~250	15	使用 P1~PF 功能時，P1~P4 段出廠設定針數為 15，如未使用之段，其針數必須設為 0。
40	撥線出力功能	ON/OFF	ON	
41	切線出力功能	ON/OFF	ON	
42	計數器模式	NOP/UTS	NOP	NOP: 無計數器功能 UTS: 切線後往上計數一次，當達到設定的馬達自動停止。按操作盒 A 鍵重新計數
43	計數目標值	1~9999	99	
44	計數值顯示	0~99	顯示數值	
45	馬達速度顯示	0~4500	顯示速度	

THREE-NEEDLE SEWING KD Series INSTRUCTION BOOK

PREFACE Please review the manual carefully before using of the controller. Please feel free to contact with us if you have any question and comment.

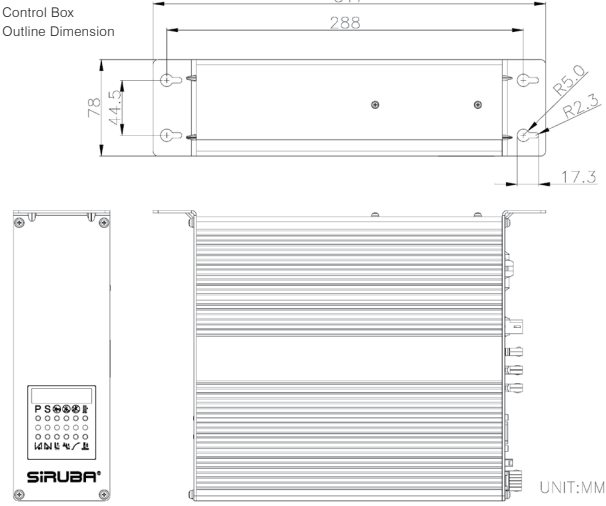
Caution :
The warning sign indicates that incorrect machine installation, operation and maintenance may cause personnel injury or machine damage!

- For controller installment and maintenance, please contact with qualified technician for assistance.
- Do not expose the controller to wet, corrosive, and flammable environment. It may cause electrical shock or fire hazards.
- Ensure the controller applies to proper application and environment.
- Please connect the controller to a properly grounded outlet. If the grounding connection is not secured, it may cause serious electrical shock for human body.
- Please turn off the power prior to needles threading, mechanical adjustment or maintenance.
- Please ensure the switch is at "OFF" stage when plugging the power into the system.
- Please do not touch the controller heat sink during operation to avoid burn hazard.
- There might still be high voltage after switching off the controller. For safety concern, please keep minimal 1 minute interval before rebooting the controller and be cautious when opening up the controller case.
- All the replacement parts for repairing must be provide or approved by supplier.

SYSTEM SPECIFICATION

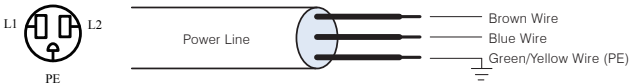
Motor Type	AC Servo Motor
Input Voltage Range	AC 176~264V 50/60 Hz
Rated Input Power	600W
Max Sewing Speed	200 ~ 6000 RPM
Rated Torque	0.954 N·m
Operating Temp	0-50degC
Insulation Voltage	AC 1500V / 1min
Insulation Resistance	DC 500W, over 100M ohm

PRODUCT INTRODUCTION

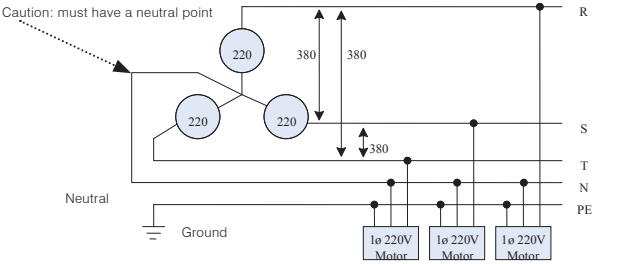


POWER CONNECTION AND GROUNDING

1. Single Phase Connection

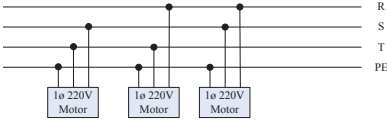


2. Connecting Single Phase / 220V Power from a 3 Phases / 380V Power Source



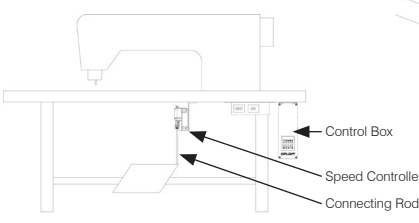
Caution :
If the power source does not have the neutral point, then this 1Φ / 220 V servo motor is not suitable for this connection.

3. Load Balance for 1 Phase / 220V Motor with 3 Phases / 200V Power System

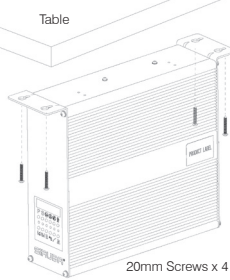


USER INTERFACE AND INSTALLATION

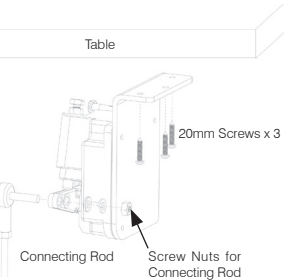
User Interface and Installation Installation Location



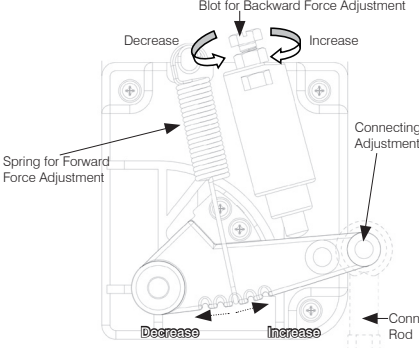
Control Box Installation



Speed Controller Installation



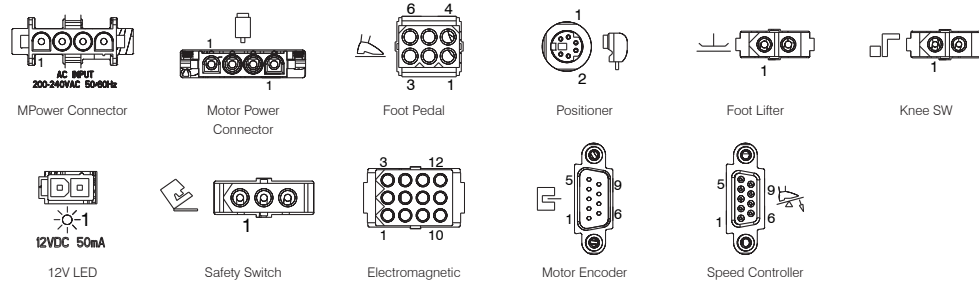
Speed Controller Adjustment



Caution :
Turn off the power before the speed controller adjustment.

Adjustment Items	Adjustment Method
Forward Force Adjustment	(1) When spring moving to the right, the forward force increases. (2) When spring moving to the left, the forward force decreases.
Backward Force Adjustment	(1) When bolt turns clockwise, the backward force increases. (2) When bolt turns counterclockwise, the backward force decreases.
Connecting Rod Adjustment	(1) When the connecting rod secures at right hole, the stroke is longer. (2) When the connecting rod secures at left hole, the stroke is shorter.

Outside Connector Diagram



CN101 MPower Connector	CN201 Motor Power Connector	CN701 Foot Pedal	CN476 Positioner
1 L Blue	1 U Red	1 +12V	1 Signal
2	2 V White	2 START Sewing Switch	2 Pull High
3 N Brown	3 W Black	3 VC Adjustable voltage control	3 NC
4 PE Yellow/Green	4 PE Yellow/Green	4 INF Presse foot lifte switch	4 NC
	5 0V	5	5 +5V
	6 TIMMER	6 Thread trimme switch	6 0V

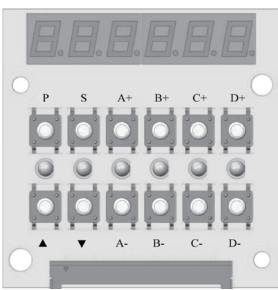
CN661 Foot Lifter / Knee SW	CN821 12V LED	CN761 Safety Switch
1 Foot1(+)	1 0V	1 +5V
2 Foot2(-)		2 Safe_sw
3 0V	2 +12V	3 0V
4 Knee_sw		

CN681 Electromagnetic Valve	CN476 Motor Encoder Connector	CN476 Speed Controller
1 TRIM Thread trimme switch Electromagnetic Valve / Metal	1 A+	1 Signal
2 CS_1(+) Condensed stitching Electromagnetic Valve / Metal	2 B+	2 -
3 +24/30V	3 Z+	3 -
4 WIPER Wiper Electromagnetic Valve / Metal	4 +5V	4 -
5 CS_2(-) Condensed stitching Electromagnetic Valve / Metal	5 0V	5 0V
6 +24/30V	6 U+	6 +3.3V
7 TENSION Tension Electromagnetic Valve / Metal	7 V+	7 SWCLK
8 OP OP Electromagnetic Valve / Metal	8 W+	8 +5V
9 +24/30V		
10 OP_SW OP Switch	9 -	9 SWDAT
11 -		
12 0V GND		

Note: 24V Applicable for electromagnetic Valve / 30V Applicable for electromagnetic Metal.

OPERATION PANEL SETTING

Figure and Description



Function Setting Key for Normal Mode

P	Enter Parameter Selection Mode
S	Enter Parameter Adjustment Mode
▲	No Function
▼	No Function
A+	Half Heeling
A-	Auto Presser Foot After Stop Stitching
B+	Thread Trimmer
B-	Auto Presser Foot After Thread Trimming
C+	Wiper
C-	Soft Start Stitch
D+	Constant Stitching
D-	Needle Up / Down After Stop Stitching

Function Setting Key for Parameter Adjustment Mode

P	Enter Parameter Selection Mode	S	Enter Parameter Adjustment Mode
▲	Parameter Increment	▼	Parameter Decrement
A+	Parameter Increment in Thousands	A-	Parameter Decrement in Thousands
B+	Parameter Increment in Hundreds	B-	Parameter Decrement in Hundreds
C+	Parameter Increment in Tenths	C-	Parameter Decrement in Tenths
D+	Parameter Increment in Digits	D-	Parameter Decrement in Digits

Parameter Setting and Adjustment

1. In Normal Mode, press P Key to enter Parameter Selection Mode.
2. Use the increment key ▲ and decrement key ▼ to select parameter.
3. Press S Key to enter Parameter Adjustment Mode.
4. Use the key A+ · B+ · C+ · D+ · A- · B- · C- and D- to adjust the parameter.
5. Press S Key to go back to Normal Mode. Or press P Key to go back to Parameter Selection Mode.

Error Code & Trouble Shooting

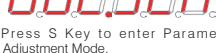
Operation Box Error Code	Cause of the Problem	Measurement and Solution
Err 0	Speed Controller Error	1. Turn off the power. 2. Check if any broken or loosen connection between speed controller connector. 3. Reboot the control box after troubleshooting. If the error code is still there, please exchange control box and contact with qualified technician.
Err 1	Over Current Protection	1. Turn off the power. 2. Check if the resistance for IPM module (IC201) is normal. 3. Reboot the control box after 1 min. If the error code still happens, please exchange control box and contact with qualified technician.
Err 4	Over Voltage Protection	1. Turn off the power. 2. Check if the control box is applied to wrong power supply or the voltage is too high. 3. If the voltage is too high, please wait for reboot after power becomes normal. If not, reboot the control box after 1 min. 4. If the error code still happens, please exchange control box and contact with qualified technician.
Err 5	Under Voltage Protection	1. Turn off the power. 2. Check if the control box is applied to wrong input power source or the input voltage is too low. 3. If the voltage is too low, please wait for reboot after power becomes normal. If not, reboot the control box after 1 min. 4. If the error code still happens, please exchange control box and contact with qualified technician.
Err 7	Over Torque	1. Turn off the power. 2. Check if any broken or loosen connection for motor power cable. 3. Check if any abnormal on machine head, other mechanism abnormal, or if the textile is too thick. 4. Reboot the control box after troubleshooting. If the error code is still there, please contact with qualified technician.
Err 10	Electromagnetic Valve Short Protection	1. Turn off the power. 2. Check if the connector for electromagnetic valve is wrongly connected, or if the electromagnetic valve is short circuit. 3. Turn on the power again. If the machine still cannot operate normally, please contact with qualified technician.
Err 11	Internal Communication Error	1. Turn off the power. Reboot the control box after 2mins. 2. If the error code still happens, please exchange control box and contact with qualified technician.
Err 20	IPM Over Temperature Protection	1. Turn off the power. Reboot the control box after 10mins. 2. If the error code still happens, please exchange control box and contact with qualified technician.
Err 21	Motor Encoder Abnormal	1. Turn off the power. 2. Check the connector between motor encoder and control box is loosen connection or if any malfunction on motor encoder board. 3. Turn on the power again. If the machine still cannot operate normally, please contact with qualified technician.
Err 22	NTC Abnormal	1. Turn off the power. Reboot the control box after 10mins. 2. If the error code still happens, please exchange control box and contact with qualified technician.
Err 23	Positioner Abnormal	1. Turn off the power. 2. Check the connector between positioner and control box is loosen connection or if any malfunction on positioner. 3. Turn on the power again. If the machine still cannot operate normally, please contact with qualified technician.
Err 24	Electromagnetic Valve Abnormal Protection	1. Turn off the power. Reboot the control box after 10mins. 2. If the error code still happens, please exchange control box and contact with qualified technician.
Err 26	Auxiliary Power Over Temperature Protection	1. Turn off the power. Reboot the control box after 10mins. 2. If the error code still happens, please exchange control box and contact with qualified technician.
Err 27	Auxiliary Power Over Temperature Protection	1. Turn off the power. Reboot the control box after 10mins. 2. If the error code still happens, please exchange control box and contact with qualified technician.
	Safety Switch Error	When the motor rotating symbol stops during Normal Mode: 1. Turn off the power and check the connection for safety switch (CN761). 2. Turn on the power again. If the machine still cannot operate normally, please contact with qualified technician.

Parameter Setting Details

1. In Normal Mode, press P Key to enter Parameter Selection Mode.



2. Use the increment key ▲ · ▼ to select parameter.



3. Press S Key to enter Parameter Adjustment Mode.



4. Use the increment key and decrement key in D+ · D- to adjust the parameter.



5. Press S Key to go back to Normal Mode. Or press P Key to go back to Parameter Selection Mode.

Display Table

Value	Display	Value	Display
0	0	A	A
1	1	B	B
2	2	C	C
3	3	D	D
4	4	E	E
5	5	F	F
6	6	G	G
7	7	H	H
8	8	I	I
9	9	J	J
		K	K
		L	L
		M	M
		N	N
		O	O
		P	P
		Q	Q
		R	R
		S	S
		T	T
		U	U
		V	V
		W	W
		X	X
		Y	Y
		Z	Z

Parameter List

Parameter	Function	Range	Default	Description
1	Motor Speed	200~6000	4500	Unit : rpm
2	Soft Start Stitch Mode	A/T	T	A: Automatic soft start stitching when treading forward foot pedal. T: Automatic soft start stitching when thread trimming completed and start next stitching cycle.
3	Counter Ratio Selection	1-100	1	Set the counter ratio. It will be a multiple for the value set in "043". The real value will be "003" x "043". When "042" was set as UTS mode, the multiple is set default value (1)
4	Start Tacking Speed	200~4500	1800	Unit : rpm
5	End Tacking Speed	200~4500	1800	Unit : rpm
6	Bar Tacking Speed	200~4500	1800	Unit : rpm
7	Soft Start Speed	200~3000	400	Unit : rpm
8	Soft Start Stitch Number	0~99	2	
9	Auto Constant Stitching Speed	200~6000	4500	Unit : rpm
10	Auto End Tacking after Constant Stitching	ON/OFF	ON	ON: After last stitching cycle at constant stitching, automatically execute end tacking or thread trimming. OFF: After last stitching cycle at constant stitching, the end tacking or thread trimming will not be executed unless depressing backward on foot pedal.
12	Mode Selection for Start Tacking	A/M/SU/SD	A	A: One shot sewing. M: Motor can adjust speed and stop during operation via foot pedal control. SU: One shot sewing while motor stops at needle UP with few ms interruption at end of each seam. The interruption time set by "027" timer. SD: One shot sewing while motor stops at needle DOWN with few ms interruption at end of each seam. The interruption time set by "027" timer.
13	Mode Selection at the End of Start Tacking	CON/STP	CON	CON: At the end of start tacking, it continues operations if foot pedal presses. STP: At the end of start tacking, the re-start must be controlled by foot pedal forward treading
14	Start Tacking Function Selection	ON/OFF	OFF	
15	Stitch A Setting for Start Tacking	0~15	3	
16	Stitch B Setting for Start Tacking	0~15	3	
17	Turns Setting for Start Tacking	0~4	2	
18	Stitch A Balance for Start Tacking	00~0F	4	
19	Stitch B Balance for Start Tacking	00~0F	3	
20	Mode Selection for End Tacking	A/SU/SD	A	A: One shot sewing. SU: One shot sewing while motor stops at needle UP with few ms interruption at end of each seam. The interruption time set by "027" timer. SD: One shot sewing while motor stops at needle DOWN with few ms interruption at end of each seam. The interruption time set by "027" timer.
21	End Tacking Function Selection	ON/OFF	OFF	
22	Stitch C Setting for End Tacking	0~15	3	
23	Stitch D Setting for End Tacking	0~15	3	
24	Turns Setting for End Tacking	0~4	2	
25	Stitch C Balance for End Tacking	00~0F	2	
26	Stitch D Balance for End Tacking	00~0F	1	
27	Interruption Time Setting at Section End of Tacking	0~999	50	Unit : ms
28	Stitch Setting for Start / End Tacking	ON/OFF	OFF	ON: The function is Valid. OFF: The function is invalid.
29	Adding Stitches for Start / End Tacking	0~99	0	When executing start / and tacking, it will automatically add 0~99 stitches. (Note: the function will be valid only when "028" was set ON.)
30	Adding 1 Stitch to the Stitch C of End Tacking	ON/OFF	OFF	ON: When executing end tacking, it will automatically add 1 stitch in C Section. OFF: The function is invalid.
31	Mode Selection for Bar Tacking	A/M/SU/SD	A	A: One Shot Sewing. M: Motor can adjust speed and stop during operation via foot pedal control. SU: One shot sewing while motor stops at needle UP with few ms interruption at end of each seam. The interruption time set by "027" timer. SD: One shot sewing while motor stops at needle DOWN with few ms interruption at end of each seam. The interruption time set by "027" timer.
32	Bar Tacking Function Selection	ON/OFF	OFF	
33	Stitch A Setting for Bar Tacking	0~99	4	
34	Turns Setting for Bar Tacking	0~15	4	
35	Stitch B Setting for Bar Tacking	00~0F	4	
36	Stitch C Setting for Bar Tacking	00~0F	3	
37	Mode Selection for Constant Stitching	A/M	M	A: One Shot Sewing. M: Motor can adjust speed and stop during operation via foot pedal control.
38	Constant Stitching Function Selection	ON/OFF	OFF	
39	Stitches Setting for Constant Stitching	0~250	15	When using P1~PF functions, the default setting are 15 stitches, while other unused stitches need to set to 0 stitch.
40	Wiper Function Selection	ON/OFF	ON	
41	Trimmer Function Selection	ON/OFF	ON	
42	Counter Mode Selection	NOP/UTS	NOP	NOP: The counter is invalid. UTS: Count up by trimming. When count is over the limit, the motor stops and the counter must be reset by Key A on the Operation Box.
43	Count Setting	1~9999	99	
44	Current Count Display	0~99	Count Display	
45	Motor Speed Display	0~4500	Speed Display	