

TSA使用說明書

目次

1.安全注意事項

2.控制器配置圖 Connector Diagram

3.定位器調整方式Locator Adjustment Method

4.操作介面說明 User Interface

5.建議搭配皮帶 Recommended Belt

6.成品料號明細圖 Parts list

7.安裝步驟 Installation

8.接地與接地線 Power Connection and Grounding

9.操作設定 Operational Setting

10.故障排除 Error Code & Trouble Shooting



1. 安全注意事項
- 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。
Please review the manual carefully before using of the controller. Please feel free to contact with us if you have any question and comment.



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

• 安裝及維修作業請由專業人員處理。
For controller installment and maintenance, please contact with qualified technician for assistance.

• 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。
Do not expose the controller to wet, corrosive, and flammable environment. It may cause electrical shock or fire hazards.

• 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。
Ensure the controller applies to proper application and environment.

• 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。
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.

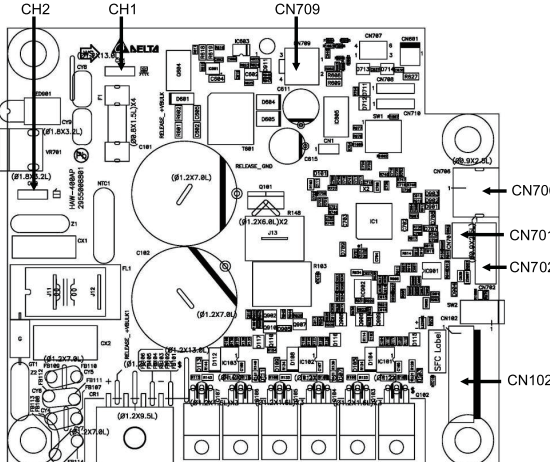
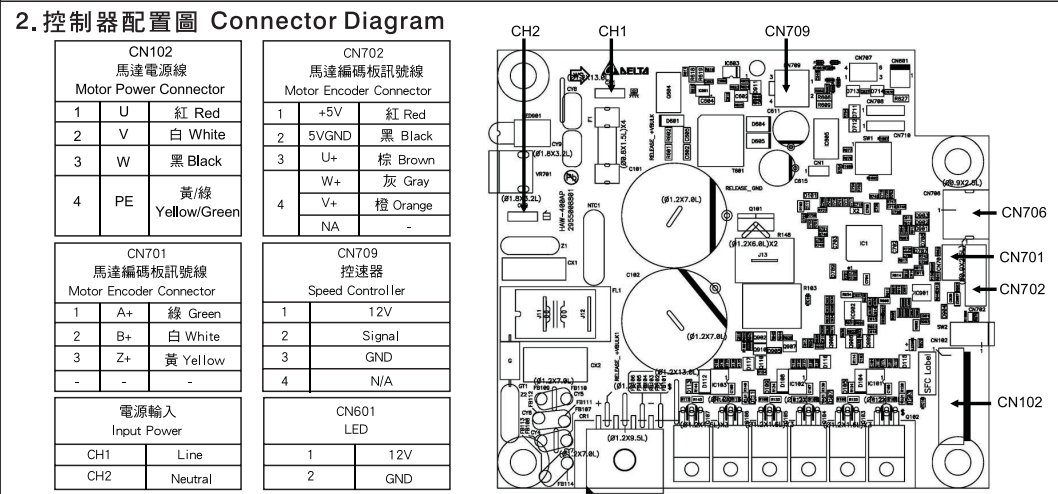
• 在進行操作前準備如穿針線時或是調適機器與維修安裝時，請務必關閉電源。
Please turn off the power prior to needles threading, mechanical adjustment or maintenance.

• 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。
Please ensure the switch is at "OFF" stage when plugging the power into the system.

• 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。
Please do not touch the controller heat sink during operation to avoid burn hazard.

• 控制器關閉後，內部可能仍有高電壓。關閉控制器應有1分鐘以上間隔，開啟控制盒須注意安全。
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.

• 務必使用本公司提供或認可的零部件維修。
All the replacement parts for repairing must be provide or approved by supplier.



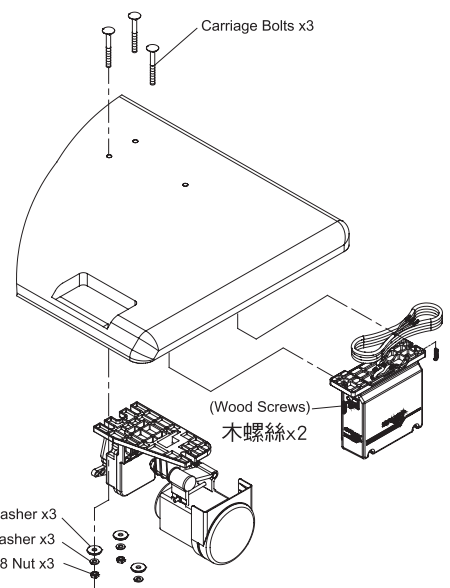
7. 安裝步驟 Installation

下掛電機安裝 Motor Installation

1.在桌板三個預留孔中置入馬車螺絲，再將馬達固定座連同馬達一起固鎖於桌板下。
Put three carriage bolts into the installation holes in sewing machine table then screw bracket along with motor to the table.

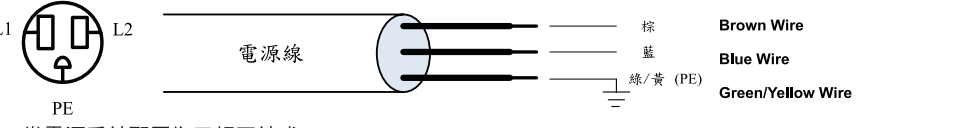
2.掛上皮帶將馬達往後拉調整皮帶適當緊度及水平，將M16螺絲對鎖螺帽(NMG11S)將其鎖緊。
Put the belt onto the motor pulley and sewing machine and then adjust the tension of the belt properly to the standard of pressing down 2cm. Tighten the assembly through M16 nut (NMG11S).

3.鎖上馬達保護蓋(TSA01)，調整皮帶出口位置後，利用螺絲(SM3051)將馬達保護蓋鎖緊。
Tighten motor protection base onto motor. Adjust the belt to proper position. Fasten motor protection cover onto motor.



8. 接地與接地線 Power Connection and Grounding

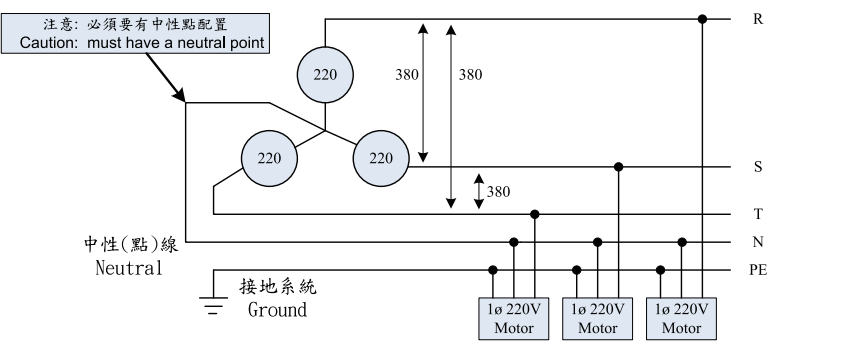
8.1單相電源接線方法 Single Phase Connection



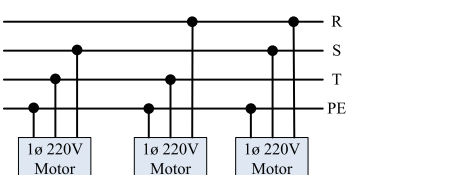
8.2當電源系統配置為三相四線式380V時，欲使用單相220V供應本控制器的接線方式Connect ing Single Phase 220V Power from a 3 Phases / 380V Power Source



注意: 如果此配置系統中沒有“中性(點)線”時，則單相220V伺服電機不適合在此場所使用
Coution: If the power source has no neutral point,the servo motor is not suitable for this connection.



8.3當單相220V伺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。
Load Balance for 1 Phase / 220V Motor with 3 Phases / 200V Power System.



3. 定位器調整方式 Locator adjustment Method

拷克車調整方式

三針車調整位置

The adjustment of the overlock

The adjusting part of the interlock



調整定位片缺口對齊機座螺絲邊緣

調整定位片缺口對齊機座螺絲邊緣

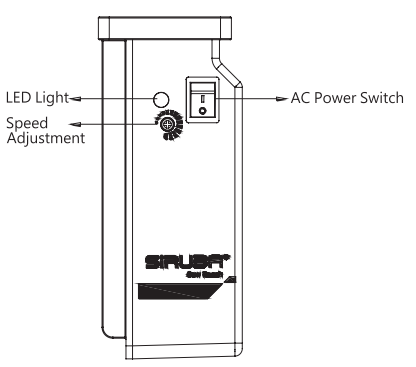
Align the gap of the locating plate to the edge of the screw.

Align the gap of the locating plate to the edge of the screw.

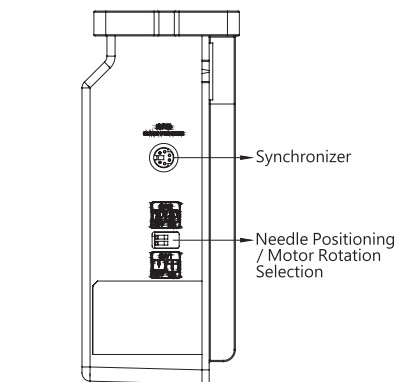
4. 操作介面說明 User Interface

4.1使用者介面說明 User Interface

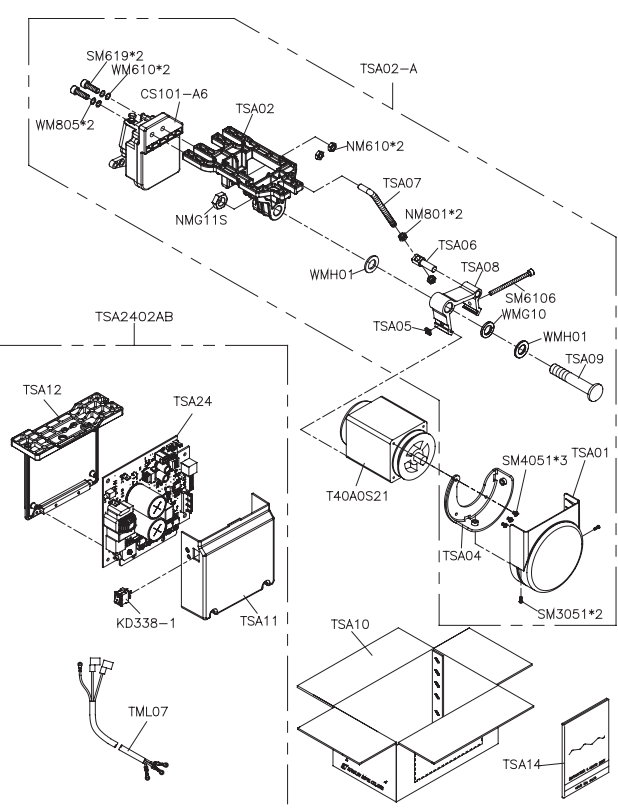
4.1.1 控制器正面 Controller – Front View



4.1.2 控制器反面 Controller – Rear View



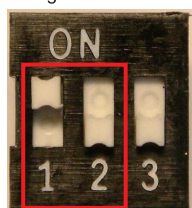
6. 成品料號明細圖 Parts list



9.操作設定 Operational Setting

9.1馬達轉速操作設定 Sewing Speed Setting

如需改變馬達轉速時，請打開外殼然後調整撥碼開關做設定。
Please open the controller case for the sewing speed setting.

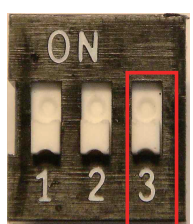


撥碼開關設定 Dip Switch Setting SW1			
1	2	3	馬達轉速 Motor speed
OFF	OFF	X	2000 rpm
OFF	ON	X	3000 rpm
ON	OFF	X	4000 rpm
ON	ON	X	5000 rpm

SW1 Pin1和Pin2：馬達轉速設定
SW1 Pin1 and Pin2：Motor Speed Setting
*出廠設定值為4000rpm
*The default value is 4000 rpm

9.2定位器的設定Synchronizer Setting

視有無選配定位器，須打開外殼然後調整撥碼開關做設定。
Please open the controller case for setting synchronizer availability.

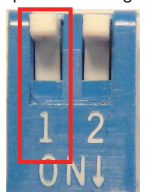


撥碼開關設定 Dip Switch Setting SW1			
1	2	3	定位器
X	X	OFF	無 Without
X	X	ON	有 With

SW1 Pin3：有(ON)/無(OFF)定位器
SW1 Pin3：With (ON) or Without (OFF) a Synchronizer
*出廠設定值為無定位器
*The default value is no locator.

9.3上下停針設定Stop Needle Up/Down Setting

如需改變上/下停針設定，請於側邊調整撥碼開關做設定。
Please adjust SW2 from rear side of case for stop needle up/down settings.

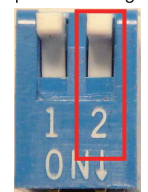


撥碼開關設定 Dip Switch Setting SW2		
1	2	
ON	X	下停針 Stop Needle Down
OFF	X	上停針 Stop Needle Up

SW2 Pin1：上下停針設定
SW2 Pin1：Stop Needle Up/Down Setting
*出廠設定值為上停針位置
*The default value is the position of the upper stop needle.

9.4馬達正反轉設定Motor Rotation Setting

如需改變馬達正反轉設定，請於側邊調整撥碼開關做設定。
Please adjust SW2 from rear side of case for stop needle up/down settings.



撥碼開關設定 Dip Switch Setting SW2		
1	2	
X	ON	馬達反轉 Counter Clockwise Rotation
X	OFF	馬達正轉 Clockwise Rotation

SW2 Pin2：馬達正反轉設定
SW2 Pin2：Motor Rotation Setting

10. 故障排除 Error Code & Trouble Shooting

警示LED為綠色燈表示控制器正常運作，紅燈表示控制器異常，使用者可以藉由閃燈的次數判斷問題發生的原因，如下表所示：
Green light indicates the product works properly while red light indicates error. User can judge the failure mode from the time of light flashes.

顯示燈號次數 LED-Error Flashes	異常現象說明 Cause of the Problem	解決措施 Measurement and Solution
閃燈兩次 Flash Twice	過電壓 保護 Over Voltage Protection	1. 關閉電源。 Turn off the power. 2. 請檢查是否誤接供電電源或電壓偏高(高於 270Vac)。 Check if the control box is applied to wrong power source or if the voltage for power line is higher than 270Vac. 3. 如電壓過高，則待電壓回復正常後重新開機。 If the voltage for power line is too high, please wait for reboot before power line comes back to normal. 4. 控制器若仍有故障燈顯示，請更換控制器並通知廠商。 If the error flashes still happens, please exchange control box and contact with qualified technician.
閃燈四次 Flash 4 Times	過電流保護/控制器過熱保護 Over Current Protection / Control Box Over Temperature Protection	1. 關閉電源。 Turn off the power. Reboot the control box after 10minute. 2. 確認 IGBT 模組工作正常。 Check if the IGBT module is normal. 3. 一分鐘後重新送電。控制器若仍有故障燈顯示，請更換控制器並通知廠商。 Reboot the control box after 1 min. If the error flashes still happens, please exchange control box and contact with qualified technician.
閃燈五次 Flash 5 Times	電機編碼器故障 Encoder & Hall Sensor Abnormal	1. 關閉電源。 Turn off the power. 2. 檢查電機編碼器連接線(CN701 和 CN702)是否接觸不良或馬達編碼器是否故障。 Check the connection between motor encoder and control box or (CN701 and CN702) if any malfunction on motor encoder board. 3. 排除後重新送電，若仍無法正常運轉，請通知廠商。 Turn on the power again. If the machine still cannot operate normally, please contact with qualified technician.
恒亮 Always ON	堵轉檢知過斷 Over Torque	1. 關閉電源。 Turn off the power. 2. 檢查馬達動力線插頭配線(CN102)是否接觸不良。 Check the connection for motor power cable (CN102). 3. 是否有異物纏繞機頭或加工物是否過厚。 Check if any abnormal on machine head and if the textile is too thick. 4. 排除後重新送電，若仍無法正常運轉，請通知廠商。 Reboot the control box after trouble fix. If the error flashes still happens, please contact with qualified technician.