



使用說明書 OPERATION MANUAL



MK1 使用說明書



中文 版

ENGLISH

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EC - Manufacturer Declaration

EC Declaration of Conformity

We declare herewith that the following equipment :
NEEDLE POSITIONER

DEVICE---MK SERIES

. is designed to be a driver of a sewing unit or system and must not be put into commission until the sewing unit or system has been declared in conformity with the provision of the EC Machinery Directives.

. complies with the following relevant provisions:

- EC Low Voltage Directive (2014/35/EU)
- EC Electromagnetic Compatibility Directive (2014/30/EU)
- EC Machinery Directive (2006/42/EC)

Applied harmonized standards, especially :

- | | |
|-------------|---|
| EN 60204-31 | Electrical equipment of industrial machines. Particular requirements for sewing machines, sewing units and sewing system. |
| EN 12100 | Safety of machines. |

EG Konformitätserklärung

Hiermit erklären wir, dass die Bauart des Nähmaschinenantriebes :
MOTOR TYP

DEVICE---MK SERIES

. zum Einbau in eine Näheinheit oder Nähanlage sind und dass Inbetriebnahme so lange untersagt ist, bis festgestellt wurde, dass die Näheinheit oder Nähanlage, in die dieser Nähmaschinenantrieb eingebaut werden soll, den Bestimmungen der EG-Maschinenrichtlinie entspricht.

. folgenden einschlägigen Bestimmungen entspricht :

- EG Niederspannungsrichtlinie (2014/35/EU)
- EG EMV Richtlinie (2014/30/EU)
- EG Maschinenrichtlinie (2006/42/EWG)

Angewendete harmonisierte Normen, insbesondere :

- | | |
|-------------|--|
| EN 60204-31 | Elektrische Ausrüstung von Industriemaschinen. Besondere Anforderungen für Nähmaschinen, Nähheiten und Nähanlagen. |
| EN 12100 | Sicherheit von Maschinen, Grundsätzliche Terminologie und Methodik. |

Dichiarazione CE di conformità

Con la presente dichiariamo che la costruzione del motore per macchine per cucire :
TIPO DI MOTORE

DEVICE---MK SERIES

. è destinata per essere incorporata in una unità di cucitura oppure in un impianto di cucitura.

E vietata la sua messa in servizio prima che l'unità o l'impianto di cucitura in cui sarà incorporata sia stato dichiarato conforme alle disposizioni della direttiva CE per macchinari.

. è conforme alle seguenti disposizioni pertinenti :

- Direttiva CE per bassa tensione (2014/35/EU)
- Direttiva CE per compatibilità elettromagnetica (2014/30/EU)
- Direttiva CE per macchinari (2006/42/CE)

Norme armonizzate utilizzate, in particolare :

- | | |
|-------------|--|
| EN 60204-31 | Equipaggiamento elettrico di macchine industriali. Esigenze speciali per macchine per cucire, unità ed impianti di cucitura. |
| EN 12100 | Sicurezza di macchinari, terminologia di base e metodica. |

Déclaration CE de conformité

Par la présente, nous déclarons que le type de fabrication du moteur pour machines à coudre :
TYPE DE MOTEUR

DEVICE---MK SERIES

. est destiné à être intégré à une unité ou un système de couture et que sa mise en service est interdite tant que l'unité ou le système de couture auquel il sera intégré n'ait été déclaré conforme aux dispositions de la directive CE sur les machines.

. répond aux suivantes dispositions pertinentes :

- Directive CE sur la basse tension (2014/35/EU)
- Directive CE sur la compatibilité électromagnétique (2014/30/EU)
- Directive CE sur les machines (2006/42/CE)

Normes appliquées après harmonisation, en particulier :

- | | |
|-------------|--|
| EN 60204-31 | Équipement électrique des machines industrielles. Règles particulières pour machines à coudre, unités et systèmes couture. |
| EN 12100 | Sécurité des machines, terminologie de base, méthodologie. |

Declaração CE de Conformidade

Declaramos, pelo presente instrumento, que a construção do motor da máquina de costura :
TIPO DO MOTOR

DEVICE---MK SERIES

. está destinada a ser incorporada numa unidade ou instalação de costura. Nunca colocar em serviço antes de a unidade de costura ou a instalação de costura em que este motor vai ser incorporado ser declarada em conformidade com o disposto na diretiva da CE sobre máquinas.

. corresponde às seguintes normas pertinentes :

- Directiva CE sobre baixa tensão (2014/35/EU)
- Directiva CE sobre compatibilidade electromagnética (2014/30/EU)
- Directiva da CE sobre máquinas (2006/42/CE)

Normas harmonizadas aplicadas, em particular :

- | | |
|-------------|---|
| EN 60204-31 | Equipamento eléctrico de máquinas industriais. Requisitos especiais para máquinas de costura, Unidades de costura e instalações de costura. |
| EN 12100 | Segurança das máquinas, terminologia básica, metodologia. |

EC Declaración de Conformidad

Declaramos junto con esto que el siguiente equipo :
MOTOR SINCRONIZADOR

DEVICE---MK SERIES

. está diseñado para ser un controlador de una unidad de costura o sistema y no hay que ser puesto en servicio activo hasta que la unidad de costura o sistema se ha declarado conforme a la provisión de EC Directivas Maquinarias.

. Se conforma con las siguientes provisiones pertinentes :

- EC Directiva Voltaje Bajo (2014/35/EU)
- EC Directiva Compatibilidad Electromagnética (2014/30/EU)
- EC Directiva Maquinaria (2006/42/EC)

Aplicado normas armonizadas, especialmente :

- | | |
|-------------|---|
| EN 60204-31 | Equipo electrico de máquinas industriales. Requisito particular para máquinas de coser. Unidades de costura y sistema de costura. |
| EN 12100 | Seguridad de máquinas. |

H. S. Machinery. Co., Ltd

Mr. C. C. Lee Plant Manager

有毒物質限量指令自我宣告書

Declaration of Conformity for Concentration Limits for Certain Hazardous Substances

本公司所生產之伺服馬達產品系列如下所列：

We declare herewith that the following AC servo motor series products list below：

AC 伺服馬達--- i 系列/ G 系列/ GD 系列/ MD 系列

AC Servo Motor --- i Series / G Series / GD Series / MD Series

Devrice---TK Series / TC Series / MK Series / MC Series

皆符合以下指令及要求：

Are complies with the following directives and requirements：

1. 歐盟 RoHS 指令 (2002/95/EC) 及有毒物質的限量要求 (2005/618/EC)
2. 中華人民共和國電子行業標準：電子信息產品中有毒有害物質的限量要求 (SJ/T 11363-2006)

1. European Union RoHS Directive (2002/95/EC) and the concentration limits for certain hazardous substances (2005/618/EC)

2. People's Republic of China Electronic Business Standard : Requirements for concentration limits for certain hazardous substances in electronic information products (SJ/T 11363-2006)

本公司產品本身(馬達,控制箱)或其包裝材料及附件(紙箱,螺絲配件包,說明書,貼紙,標籤,印刷品...等等)或其元件與原材料供應商皆依照歐盟 RoHS 指令及中華人民共和國電子行業標準的限量規定而符合以下所列之六種有毒物質的限量要求：

Our product itself (motor, control box) or its packing materials and accessories (box, screws package, user manual, sticker, label, print...etc.) or the suppliers of parts and raw materials are all in conformity with the provision of the European Union RoHS Directive and People's Republic of China Electronic Business Standard to conform the following concentration limits for the six hazardous substances：

有毒物質 / Hazardous Substance	限量要求 / Permissible Values
鉛 Lead (Pb)	低於 240 ppm / Less than 240 ppm
汞 Mercury (Hg)	低於 800 ppm / Less than 800 ppm
鎘 Cadmium (Cd)	低於 80 ppm / Less than 80 ppm
六價鉻 Hexavalent chromium (Cr VI)	低於 800 ppm / Less than 800 ppm
多溴聯苯 Polybrominated Biphenyl (PBB)	低於 800 ppm / Less than 800 ppm
多溴二苯醚 Polybrominated Diphenyl ether (PBDE)	低於 800 ppm / Less than 800 ppm

- * 基板的無鉛製程：總鉛含有濃度基準量 800 ppm 以下。
- * The concentration of lead in the lead-free process for PCB shall be less than 800 ppm.
- * 包裝材料：Pb+Hg+Cd+Cr VI 含有濃度基準總共合計 80 ppm 以下。
- * For packing materials shipped with our products or parts, the hazardous substances shall be 80 ppm or less in sum of Pb+Hg+Cd+Cr VI.

H. S. Machinery. Co., Ltd



Mr. C. C. Lee Plant Manager

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I. 安全上的注意事項

使用前請詳細閱讀本技術資料與所搭配的縫製機械說明書，配合正確使用，並須由接受過正確訓練的人員來安裝或操作。

在使用或安裝 MK 控制箱驅動裝置時，請注意下列事項。
本驅動裝置僅適用於指定範圍的縫紉機械，請勿移做其他用途。

1 作業環境的安全：

(1). 電源電壓：

電源電壓請遵照控制箱銘牌所標示之規格 $\pm 10\%$ 範圍內操作。

(2). 電磁波干擾：

請遠離高週磁波機器或電波發射器等，以免所產生的電磁波干擾本驅動裝置因而發生錯誤動作。

(3). 溫濕度 /：

- a. 請不要在室溫 45°C 以上或 5°C 以下的場所操作。
- b. 請不要在日光直接照射的場所或室外運作。
- c. 請不要在暖氣 (電熱器) 旁運作。
- d. 請不要在相對濕度 30% 以下或 95% 以上或有露水的場所運作。

(4). 空氣：

- a. 請不要在多灰塵或具有腐蝕性物質的場所操作。
- b. 請不要在有揮發性氣體的場所操作。

2 安裝的安全：

(1). 控制箱：請遵照說明書正確裝好。

(2). 附屬品：如要裝配其它選購配件或附屬品時，請先關閉電源並拔掉電源線插頭。

(3). 電源線：

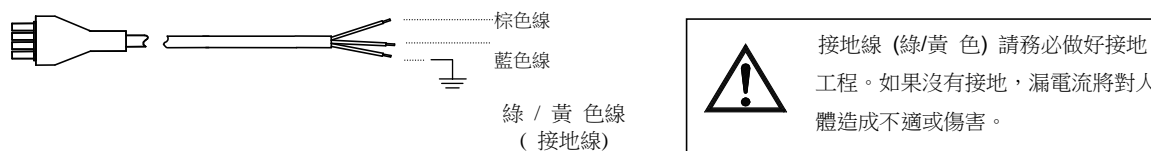
- a. 請注意不要被外物壓住或過度扭曲電源線。
- b. 裝釘電源線時請不要靠近會轉動的皮帶輪及三角皮帶，最少要離開 3 公分以上。
- c. 當連接電源線到電源插座時，應確定此供應電壓必須符合標示在控制箱銘牌上的指定電壓 $\pm 10\%$ 內。

※注意：控制箱電源系統為 **AC 220V** 時，請勿插接到 **AC 380V** 的電源插座上，此時請立即關閉電源開關，重新檢查電源。持續供應 **380V** 超過五分鐘以上，將會燒毀基板而危及人身安全。



(4). 接地：

a. 為防止雜訊干擾或漏電事故，請做好接地工程。(包括縫紉機、馬達、控制箱、定位器)



b. 電源線的接地線須以適當大小的導線和接頭連接到生產工廠的系統地線，此連接必須被永久固定。

3 操作中的安全：

- (1). 在第一次開電後，請先以低速操作送料機並檢查送料方向是否正確。
- (2). 送料機運轉時，請不要去觸摸送料機構等會作動的部位。
- (3). 所有可作動的部份，必須以所提供的防護裝置加以隔離，防止身體接觸並請勿在裝置內塞入其他物品。

4 保養維修的安全：

在操作以下動作前，請先關閉電源：

- (1). 要拆卸控制箱時，或在控制箱上插或拔任何連接插頭時。
- (2). 控制箱裡面有危險高壓電，所以關閉電源後要等 10 分鐘以上方可打開控制箱蓋。
- (3). 修理或作任何機械上的調整時翻抬車頭時。
- (4). 機器休息不用時。

5 保養維修的規定：

- (1). 修理及保養的作業，要請經過訓練的技術人員執行。
- (2). 請不要以不適當物體，如木槌、鐵槌 等敲擊本產品裝置。
- (3). 所有維修用的零件，須由本公司提供或認可，方可使用。

6 危險標示、注意標示：



這個標示符號表示機器安裝時，如有錯誤恐會傷害到人體或機器會受到損壞，所以機器方面有危險性的地方會有此標示。



這個標示符號表示有高壓電，電氣方面有危險性的地方會有此標示。

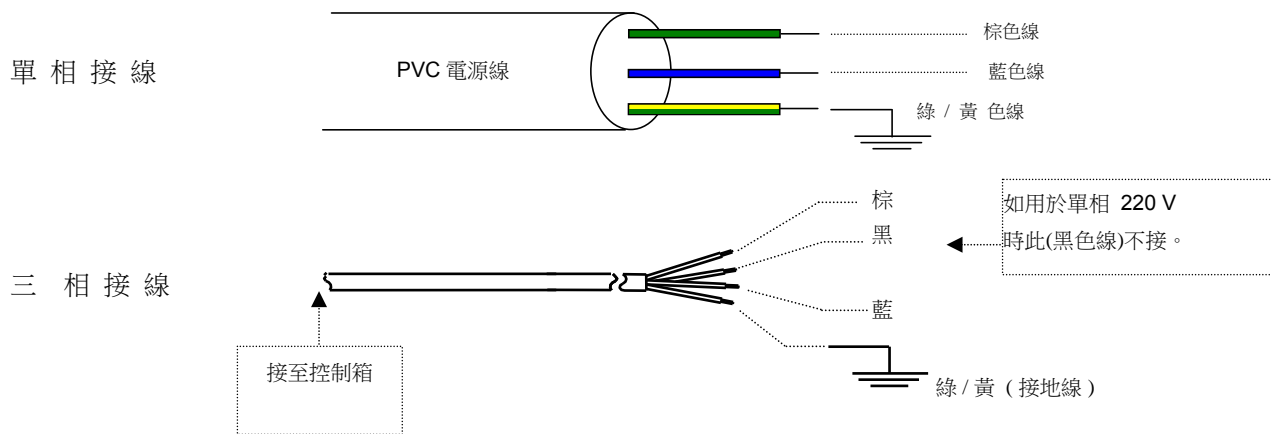
7 保固期限規定：


本裝置保證在正常工作情況且無人為失誤的操作下，保證出廠 18 個月內，無償的為客戶維修使能正常操作。

II. 接線與接地


- (1). 單相與三相電源線的接法：

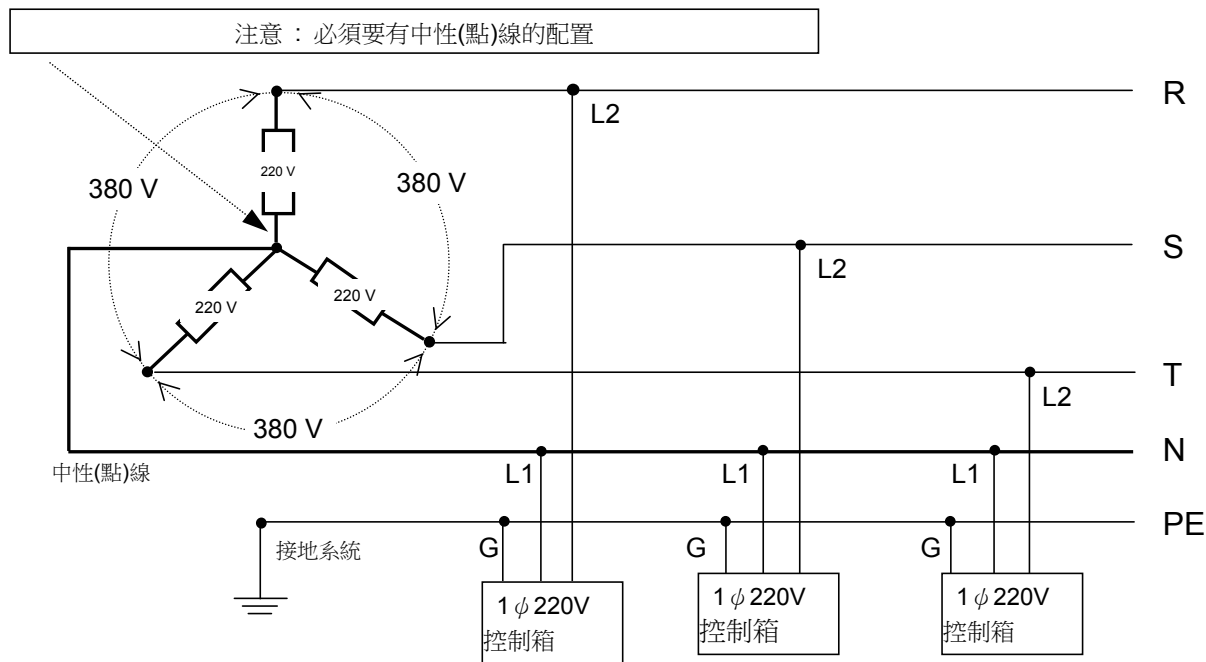
綠/黃色電線為接地線。



-  1. 當控制箱如要接於單相 200 ~ 240 V 的電壓使用時，只要接 棕色線 和 藍色線 即可，但黑色線請用絕緣膠帶確實包好，以免產生漏電現象。
2. 綠/黃色電線為接地線，一定要做好系統的接地工程。

(2).當電源系統配置為三相四線式 380V 時，欲使用單相 220 V 供應本電機的接線方式：

-  注意 :如果此配置系統沒有【中性(點)線】時，則控制箱不適合在此場所使用。



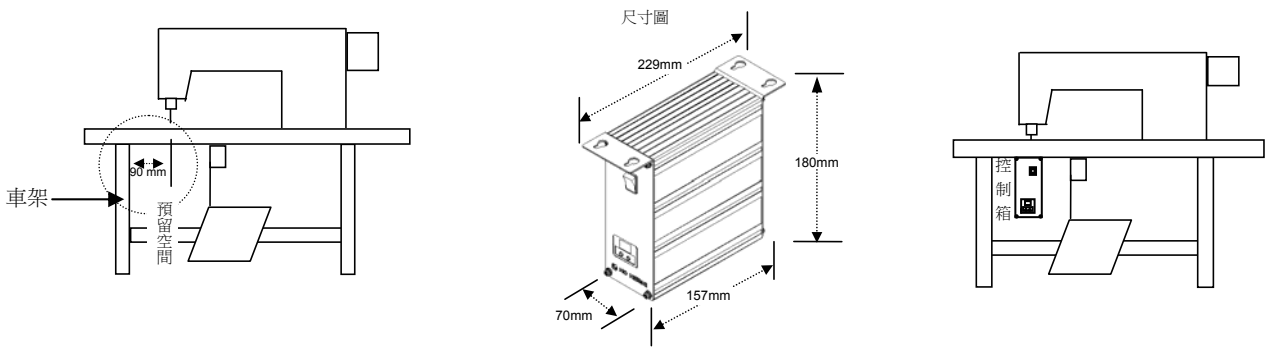
(3).當控制箱欲使用在三相 220V 的電壓時，須注意配置使用上的負載平衡。

III. 控制箱安裝

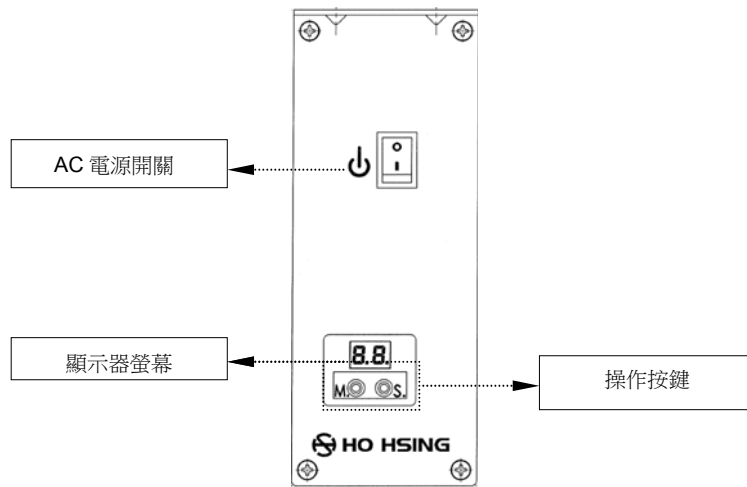
a).車板左側車架面須預留 90 mm 以上空間

b).將 MK 控制箱鎖裝於車板下方

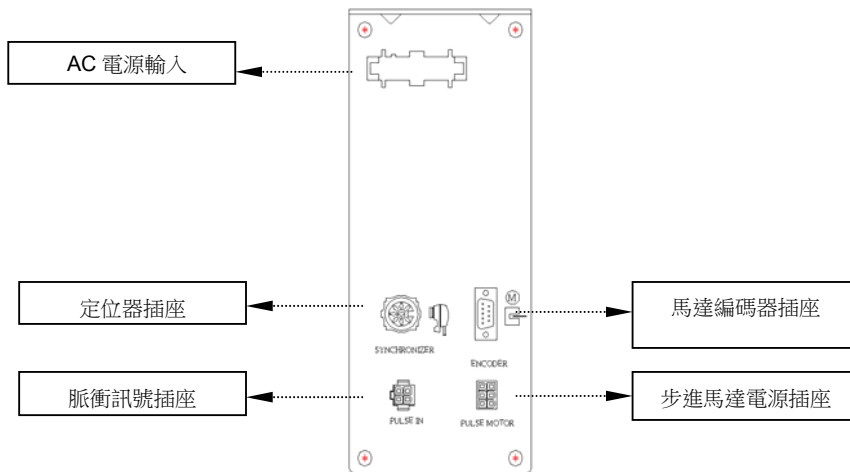
c).安裝後示意圖



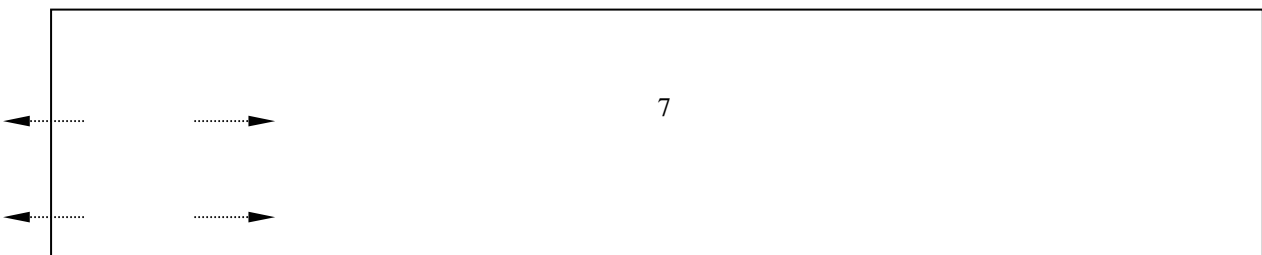
控制箱正面：

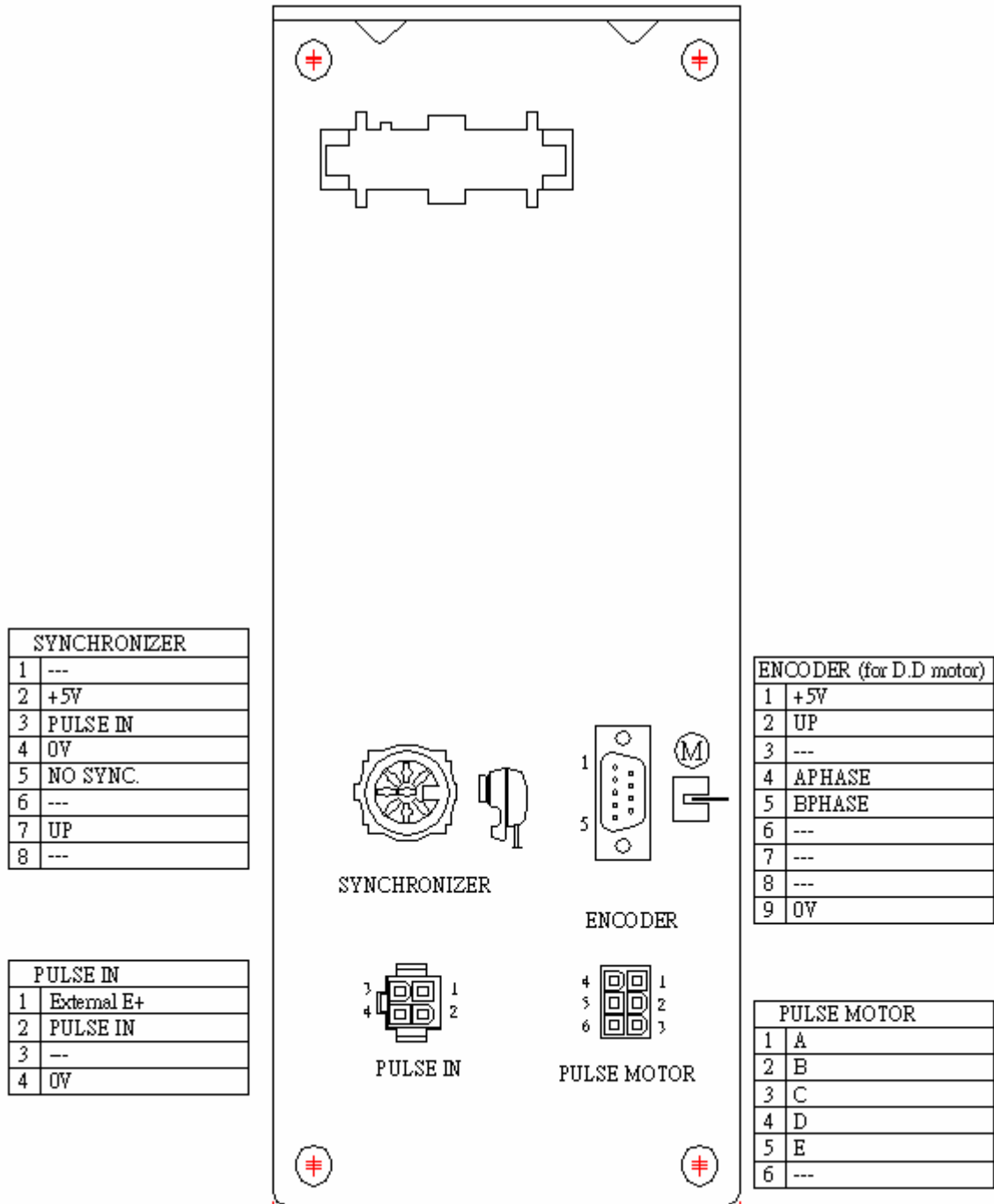


控制箱背面 端子座面板：



端子座 Pin 功能配置圖：



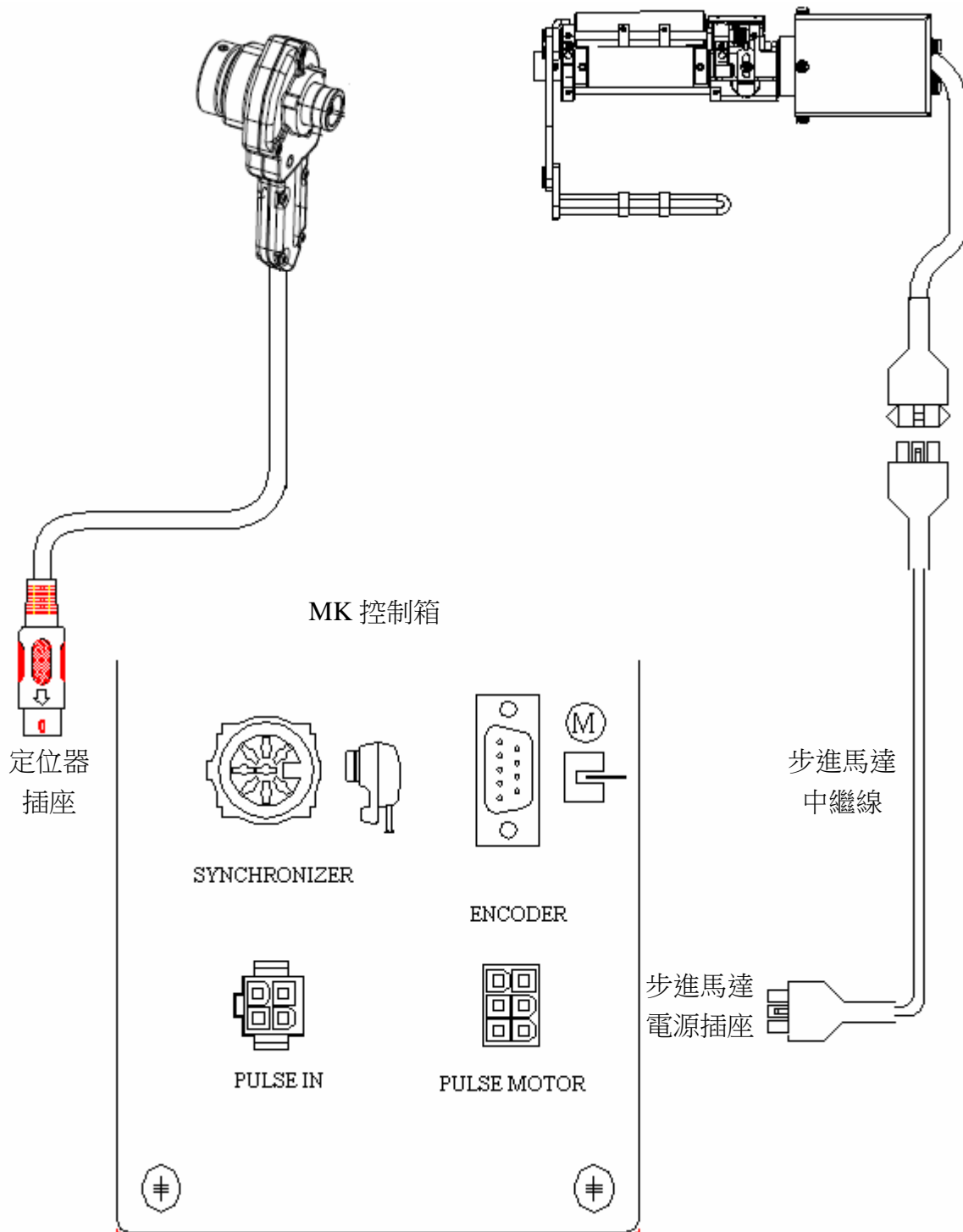


搭配說明示意圖：

1. 一般安裝

定位器

ME 裝置

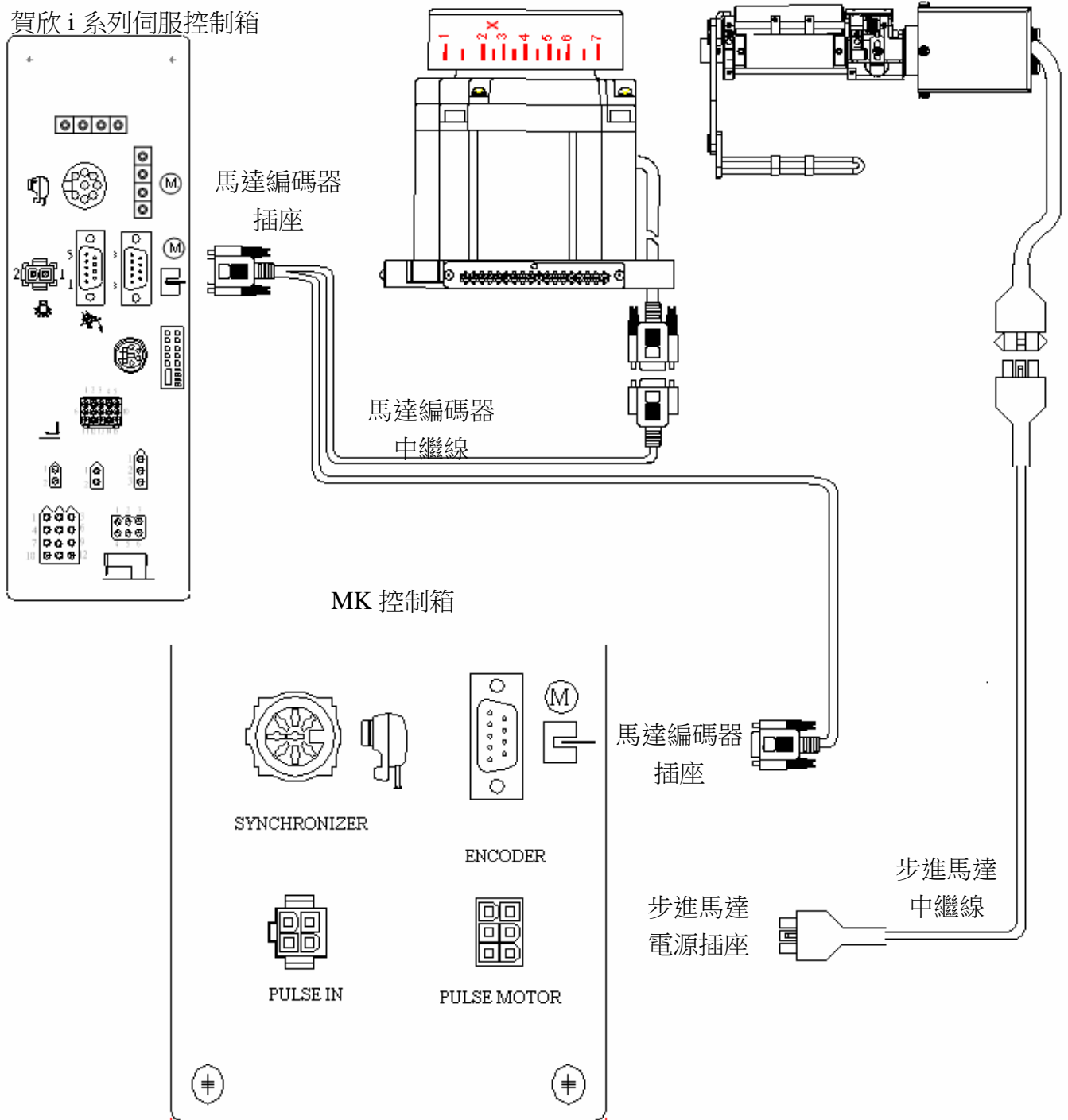


2. 賀欣直驅式 i 系列伺服電機

伺服馬達

ME 裝置

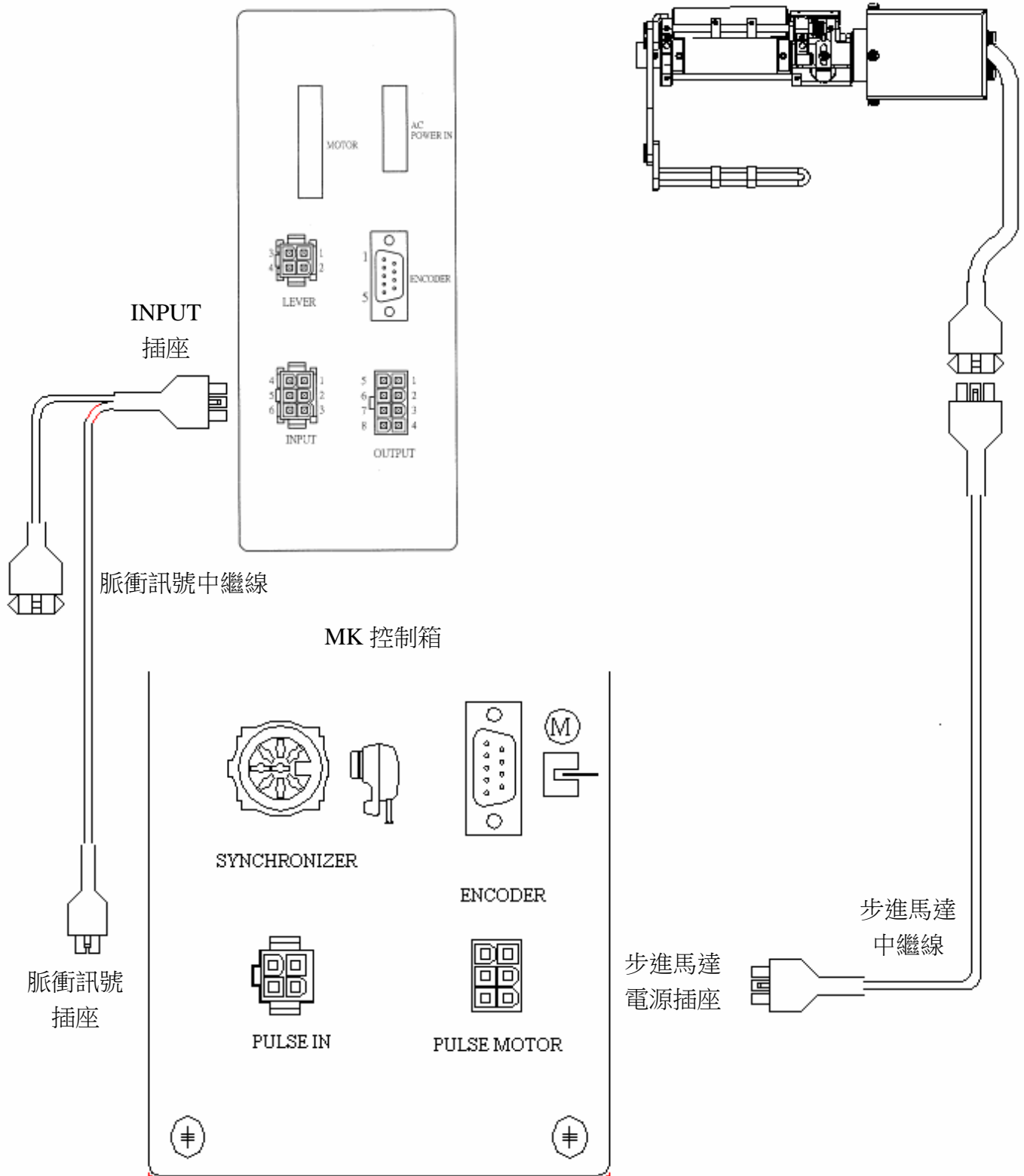
賀欣 i 系列伺服控制箱



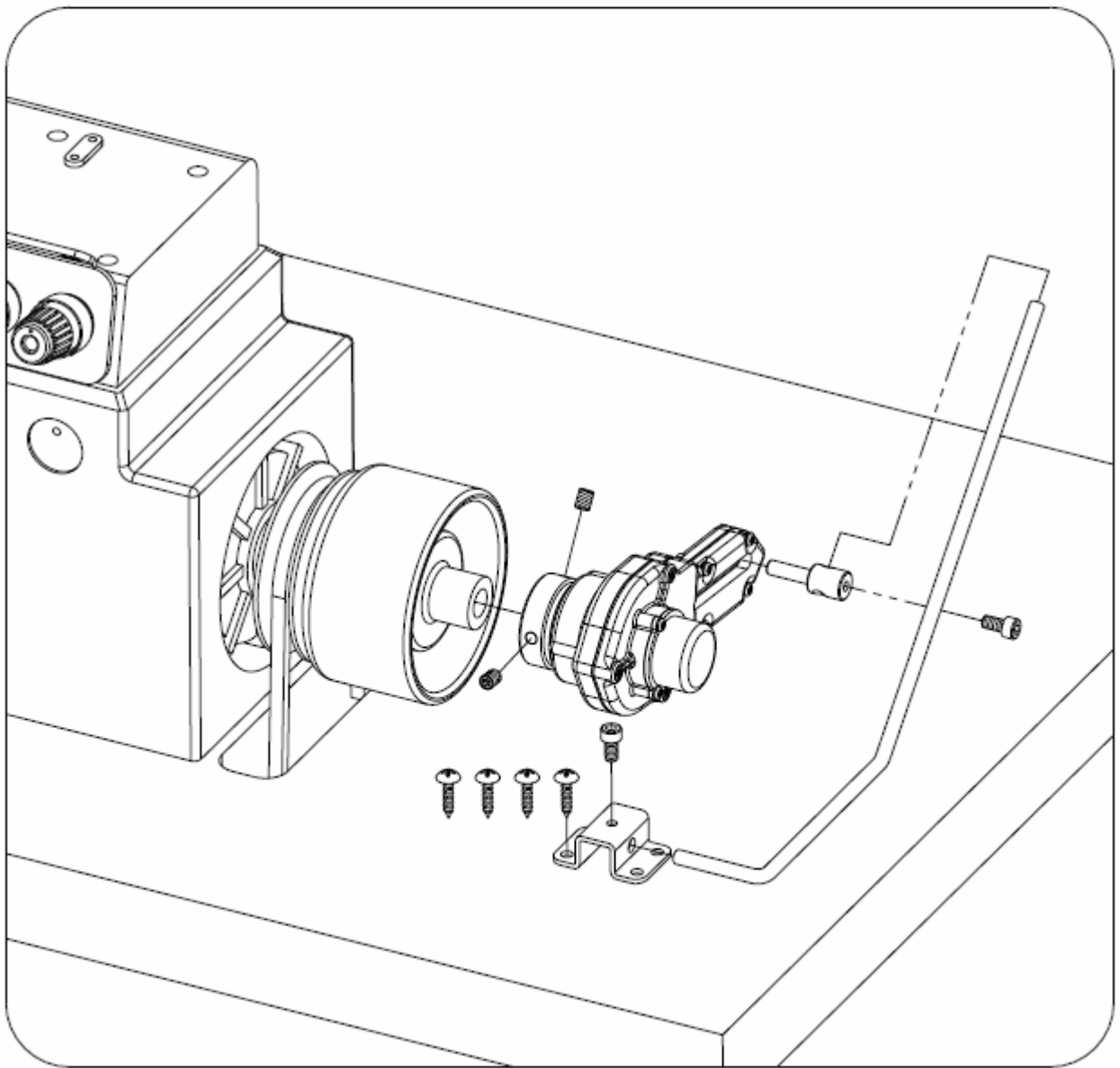
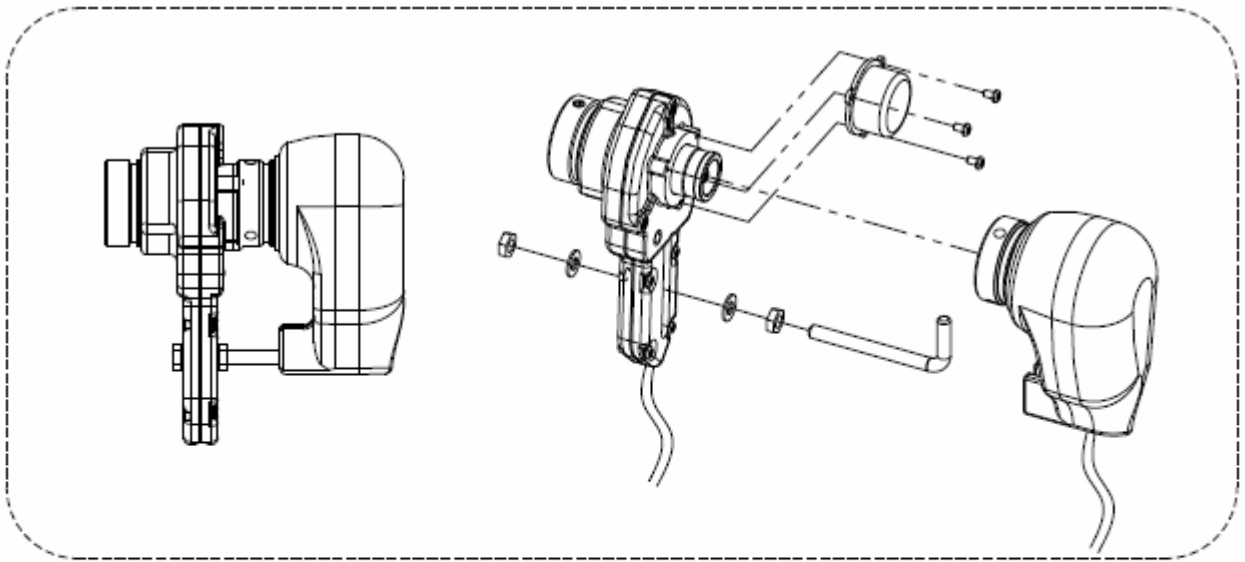
3. 賀欣直驅式 GD 系列伺服電機

賀欣 GD 系列伺服控制箱

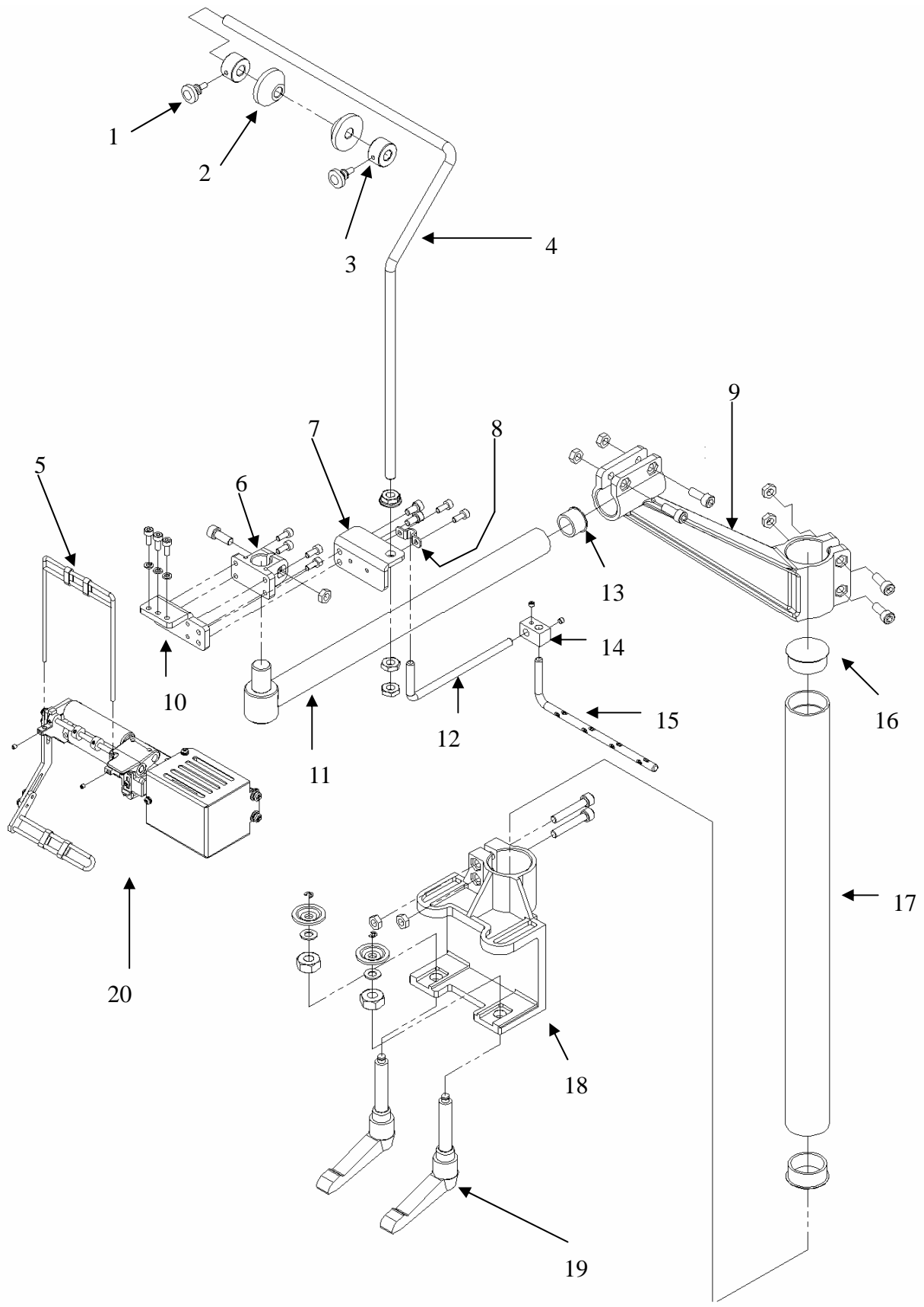
ME 裝置



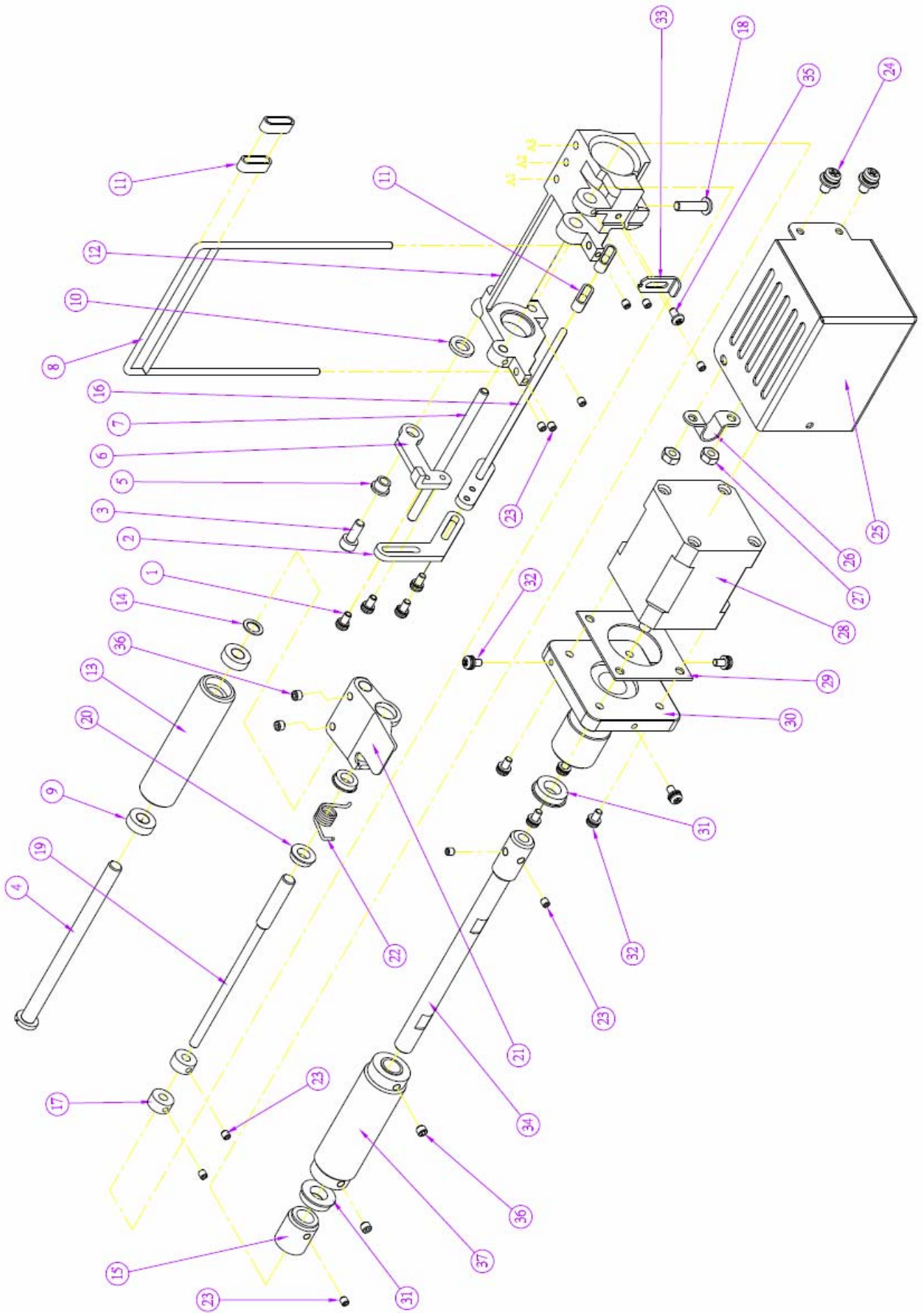
定位器組裝說明：



IV. 零件圖

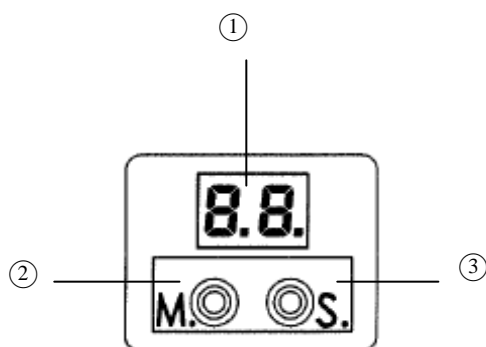


NO.	料號	名稱	數量
1	331SQ2070	旋鈕螺絲	2
2	313FDD820	限帶環	2
3	313FDD810	固定環	2
4	313FDD780	導帶桿	1
5	313FDD050	導線桿ㄇ字型	1
6	313FDD830	夾座	1
7	313FDD770	導帶桿支架	1
8	33CRV5050	固定座	1
9	2MKMKSTD02001	轉向支架	1
10	313FDD760	L 形支架	1
11	313FDD600	固定座圓管	1
12	313FDD790	L 形支桿	1
13	33CHY2060	扣式塞頭	1
14	312FDD170	固定塊	1
15	313FDD800	導線桿	1
16	33CHY2110	扣式塞頭	2
17	313FDD610	支柱圓管	1
18	4MKSTD010	C 型夾座	1
19	2MK3ZFDD06001	調整式把手螺絲	2
20	2MKMPT01	送帶機	1



NO.	料號	名稱	數量
1	331SP1060	圓頭螺絲	4
2	313FDD061	導帶桿支架	1
3	331HC1590	內六角沉窩頭螺絲	10
4	313FDD100	從動輪心軸	1
5	313FDD120	螺絲套筒	1
6	313FDD040	導線桿搖臂	1
7	313FDD090	導帶桿	1
8	313FDD050	導線桿冂字型	1
9	313BR4010	深溝滾珠軸承	2
10	33BWA1170	波形彈簧	1
11	2ME58PLF10001	PVC 套管	4
12	2ME12FDD01011	本體	1
13	313PY8020	從動輪	1
14	333WP1480	平墊片	1
15	313FDD130	手輪	1
16	313FDD070	導帶桿(U 型折彎)	1
17	313FDD150	限帶環	2
18	331HB1070	內六角傘形螺絲	1
19	313FDD080	導帶桿(限帶環用)	1
20	313BR4020	深溝滾珠軸承	2
21	2ME12FDD04011	從動輪搖臂	1
22	33BLS4010	扭轉彈簧	1
23	331SS1200	內六角 SET 螺絲	11
24	331SP1150	圓頭螺絲	2
25	2ME13FDD01001	隔熱罩	1
26	33CRV5050	電纜線固定座	1
27	332NO1050	六角螺母	2
28	2ME3ZSMB08001	步進馬達	1
29	316RB1440	橡膠墊片	1
30	2ME12FDD02011	馬達支撐座	1
31	313BR4030	深溝滾珠軸承	2
32	331SP1930	圓頭螺絲	7
33	313FDD020	彈簧調整墊片	1
34	313FDD110	驅動輪心軸	1
35	331SP1530	圓頭螺絲	1
36	331SS1320	內六角 SET 螺絲	4
37	313PY8010	驅動輪	1

V. 待機畫面功能說明



- ①  送料速度(送布量)表示

說明：顯示每針的送料速度，送料速度範圍為 0~180

- ②  送料鍵

說明：按此鍵不放開，正轉送料用步進馬達運轉，按鍵離開後馬達停止運轉。

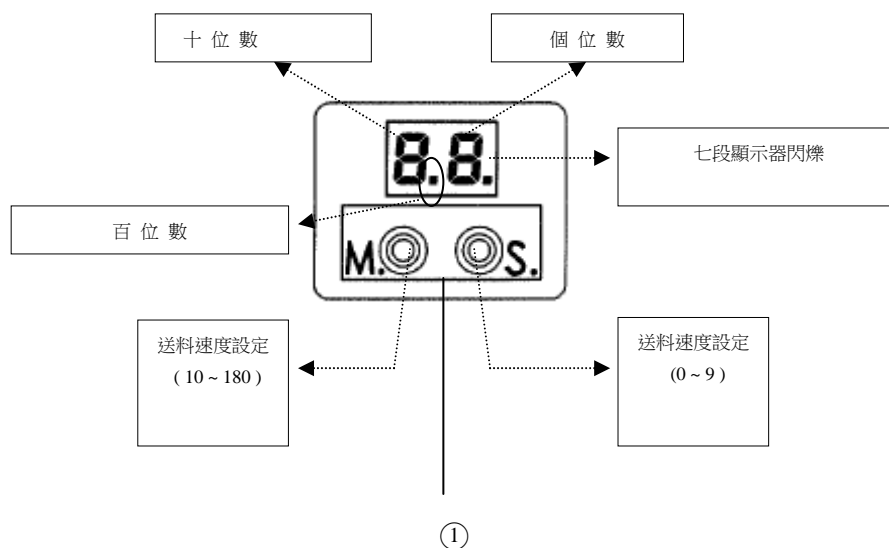
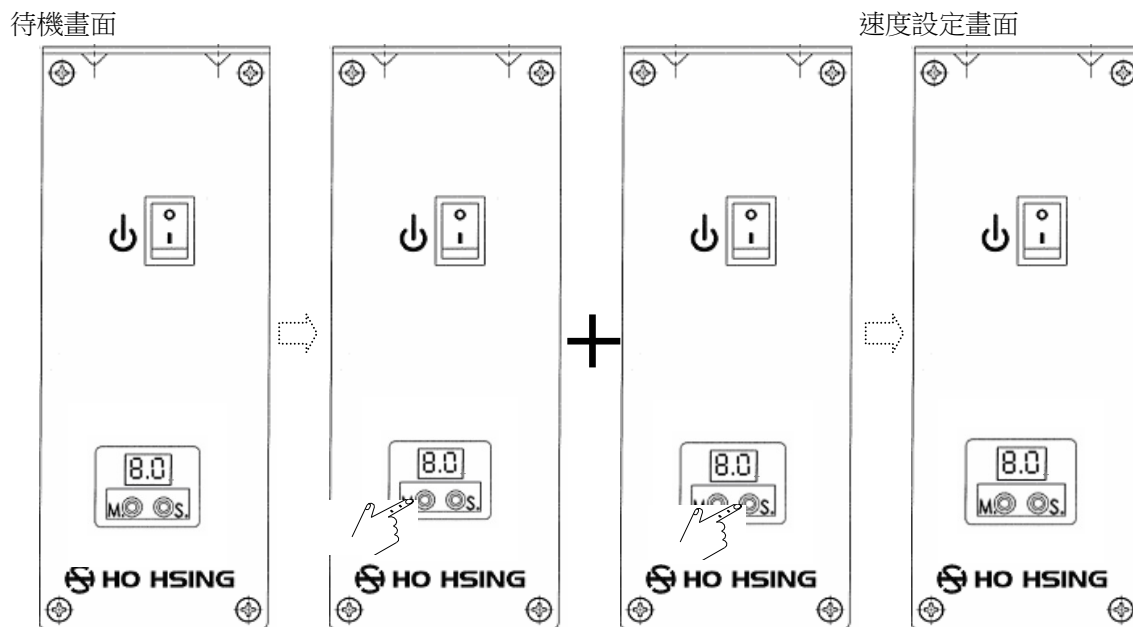
- ③  退料鍵

說明：按此鍵不放開，反轉送料用步進馬達運轉，按鍵離開後馬達停止運轉。

VI. 速度設定畫面功能說明

◎在【待機模式】進入【速度設定】操作模式畫面區：

在【待機模式】畫面區，同時按“M. ◎”和“S. ◎”，進入【速度設定】操作模式。



①



設定送料速度

說明：每針送料長度的設定，以下是送料量的對照表。

ME 專用 / for ME

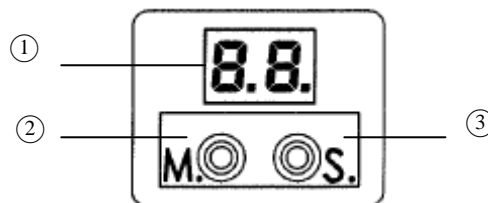
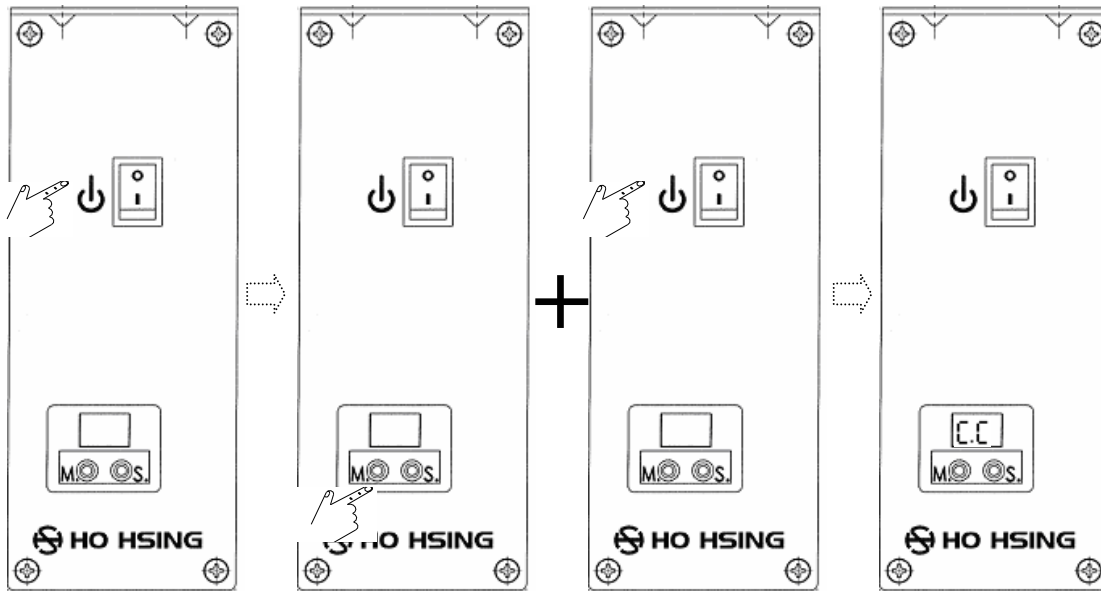
Speed	送料長度(mm) feeding meter	Speed	送料長度(mm) feeding meter
0	0.00	100	2.44
10	0.24	110	2.69
20	0.49	120	2.93
30	0.73	130	3.17
40	0.98	140	3.42
50	1.22	150	3.66
60	1.46	160	3.91
70	1.71	170	4.15
80	1.95	180	4.39
90	2.20		

VII. 方向設定畫面功能說明

◎如何進入【方向設定模式】畫面區的操作步驟：

如在操作中，請先關閉電源開關

以手按住 M. 鍵，同時開啟電源開關，即進入【方向設定模式】畫面區。



①  方向表示

說明：顯示送料馬達正反轉

②  方向選擇鍵

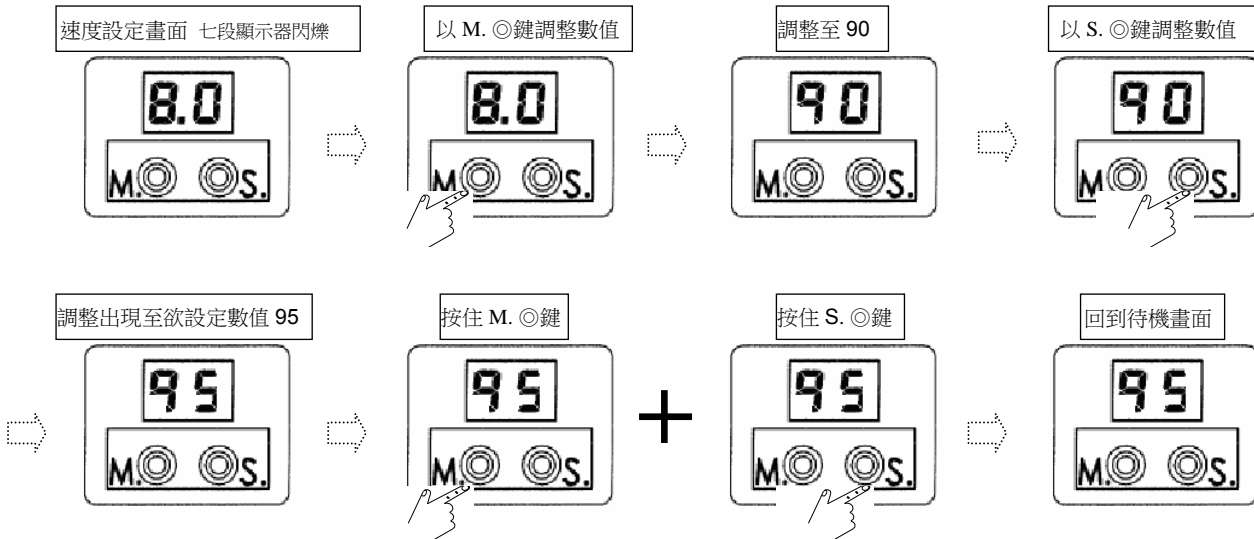
說明：切換送料馬達正反轉(cw/ccw)

③  返回鍵

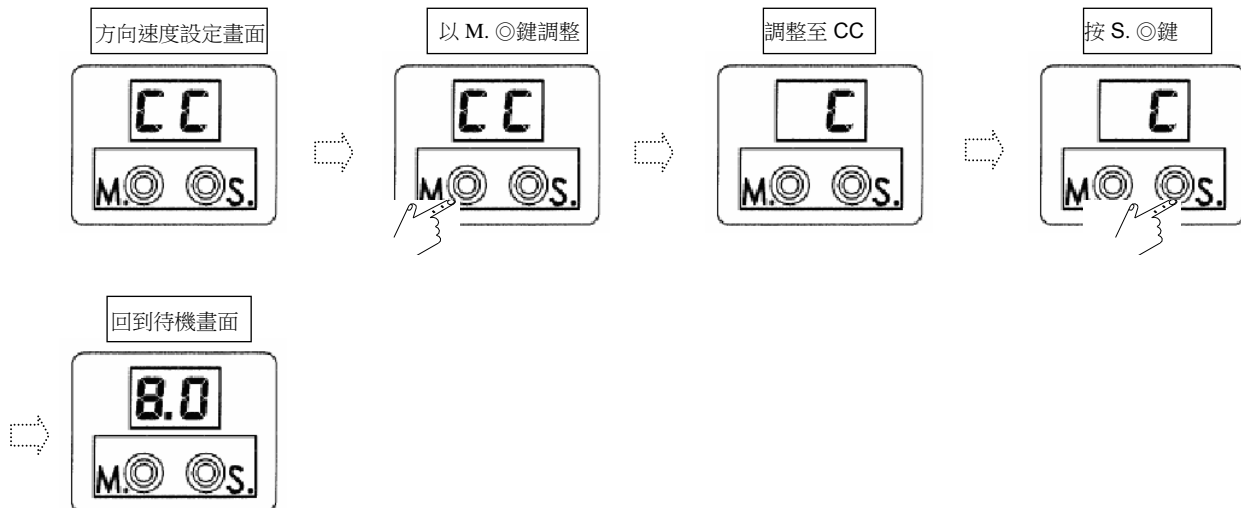
說明：返回待機畫面

VIII. 操作說明

◎速度調整範例：降低送料速度，由【180】調整至【95】。



◎方向調整範例：切換送料馬達轉向，由【CCW】調整至【CC】。



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I. Safety Precaution

Please read this manual carefully , also with related manual for the machine head before use. For perfect operation and safety, installing and operating this product by trained personnel is required.

When install and operate MK control box, precaution must be taken as the following.

This product is designed for specify sewing machines and must not be used for other purposes.

1.1 Work Environment :

(1). Power voltage:

Only use Power Voltage indicated on the name plate of the Feeder in $\pm 10\%$ ranges.

(2). Electromagnetic pulse interference:

To avoid the false operate, please keep the product away from the high electromagnetic machinery or electro pulse generator.

(3). Temperature:

a. Please don't operate in room temperature is above 45°C or under 5°C

b. Avoid operating in direct sun light or outdoors area.

c. Avoid operating near the heater.

d. Avoid operating in the area which humidity is 30 % or less and 95% or more, also keep away dew area.

(4). Atmosphere:

a. Avoid operating in dusty area, and stay away from corrosive material.

b. Avoid operating in evaporate or combustible gas area.

1.2 Safety In Installation :

(1). Control box: Follow the instruction in this manual for correct installation.

(2). Accessories: Turn off the power and unplug the cord before mounting any accessories.

(3). Power cord:

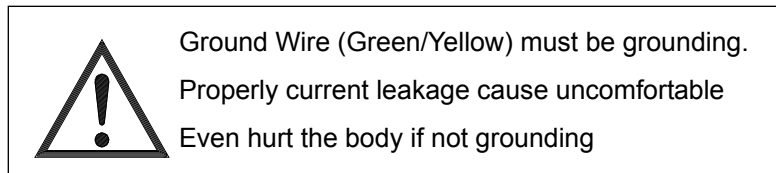
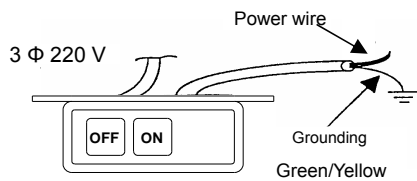
a. Avoid power cord being applied by heavy objects or excessive force, or over bend.

b. Power cord must not set to be near the V-belt and the pulley, keep 3 cm space or above.

c. Check the outlet voltage before plugging the cord, make sure it match the voltage shown on the name plate of the Feeder in $\pm 10\%$ ranges.

※ Attention : If the control box is AC 220V system, please don't connect to the AC 380V power outlet. If that happened, please turn off the power switch immediately and check the power voltage. Continue supply the 380V power over 5 minutes might damage the fuses (F1,F2) and burst the electrolytic capacitors (C3,C4) of the main board and even might endanger the person safety.





(4). Grounding:

- a. To avoid the static interference and current leakage, all grounding must be done.
- b. Use the correct connector and extension wire when connecting ground wire to Earth and secure it tightly.

1.3 Safety In Operating :

- (1). When turn on the machine in the first time, use low speed to operate and check the correct rotation direction.
- (2). During machine operation, don't touch any moving parts.
- (3). All moving parts must use the protective device to avoid the body contact and objects insertion.

1.4 Safety in Maintenance and Repairs :

Power must be turned off first, when:

- (1).Uninstall the motor or the control box, or plug and unplug any connector.
- (2).Turn off the power and wait 10 minutes before opening box cover.
- (3).Repairing or doing any mechanical adjustment.
- (4).Machines rest.

1.5 Regulation in Maintenance and Repairs :

- (1).Maintenance and Repairs must be done by specially trained personnel.
- (2).Don't use any objects or force to hit or ram the product.
- (3).All spare parts for repair must be approved or supplied by the manufacturer.

1.6 Danger and Caution Signs :



Risks that may cause personal injury or risk to the machine are marked with this symbol in the instruction manual.



This symbol indicates electrical risks and warnings.

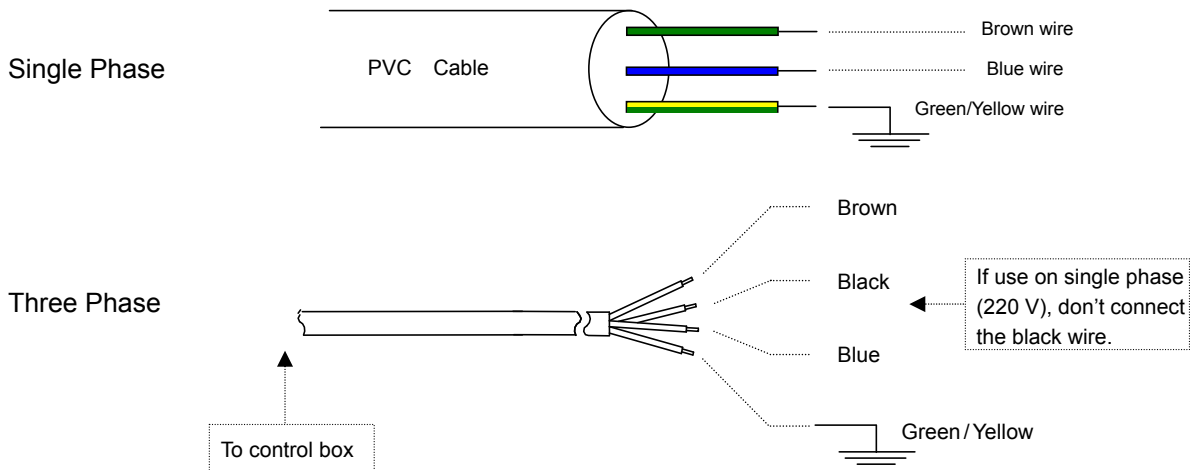
1.7 Warranty Information :

Manufacturer provide a warranty in respect of the products covered for a period of 1 year use or 1 year and 6 months after the shipping date of the products for any defects arising in the normal course of use of the products by customers.

II. Power Connection and Grounding

(1). Single phase and three phase connection:

Green/yellow wire is the ground wire.



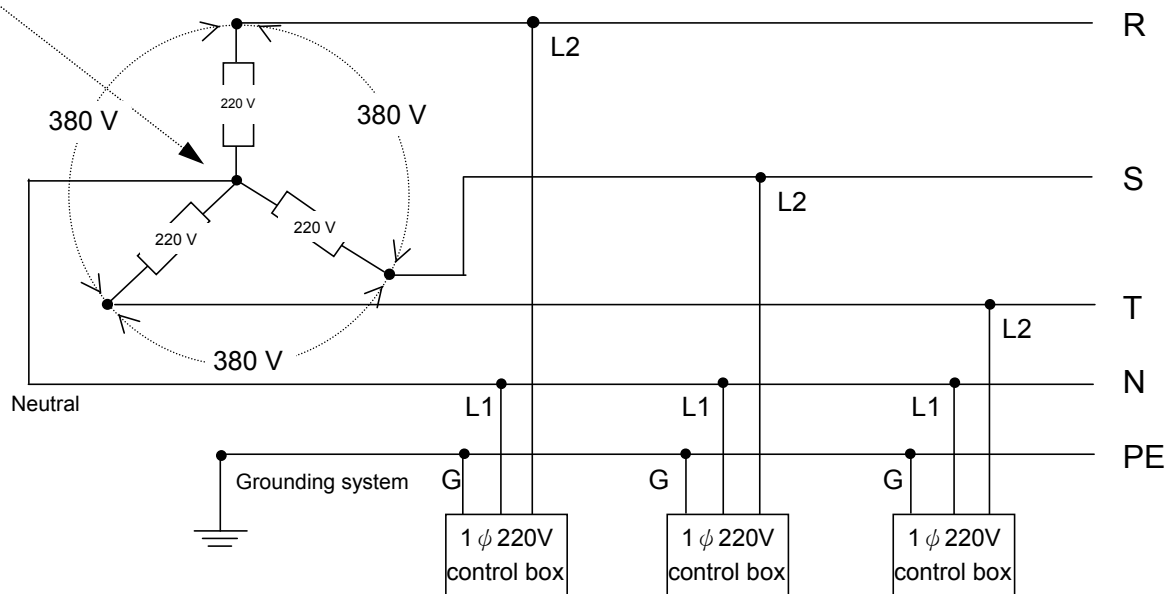
1. When a control box used on single phase 200 ~ 240 V power, only connect brown and blue wires. Use insulating tape to wrap up the black wire, in order to prevent the current leakage.
2. Green / Yellow wire must do the grounding.

(2). How to connect a 1 Φ / 220 V power from a 3 Φ / 380 V power source



Caution : If the power source does not have the neutral point, then this control box is not suitable for this connection.

Caution: Must have a Neutral point

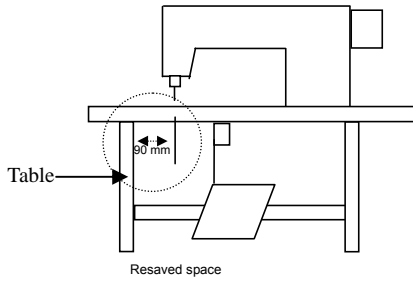


(3). The load balance when use a control box on a 3 Φ / 220 V power source.

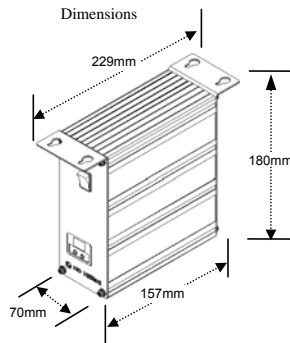
Please consider R.S.T balance when connecting to several sewing machine

III. Control Box Installation

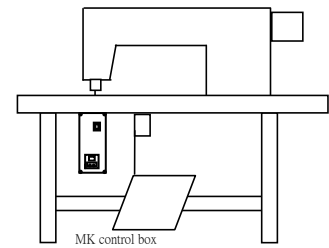
a).Reserved 90mm space (or above) on leftside of table



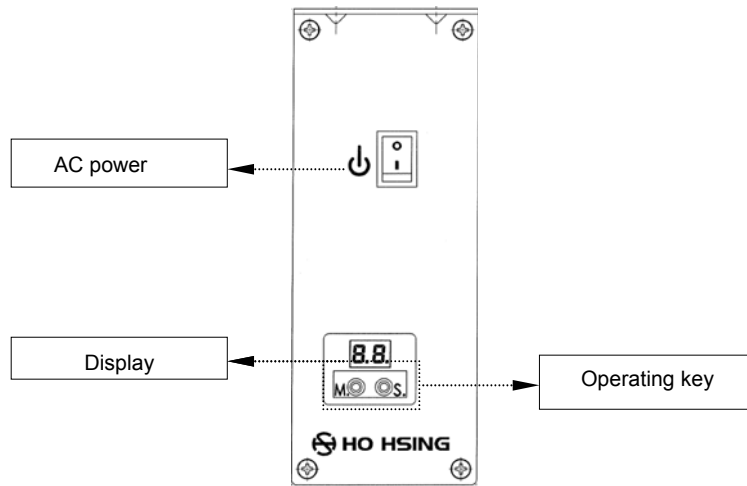
b)Installs MK control box under the table



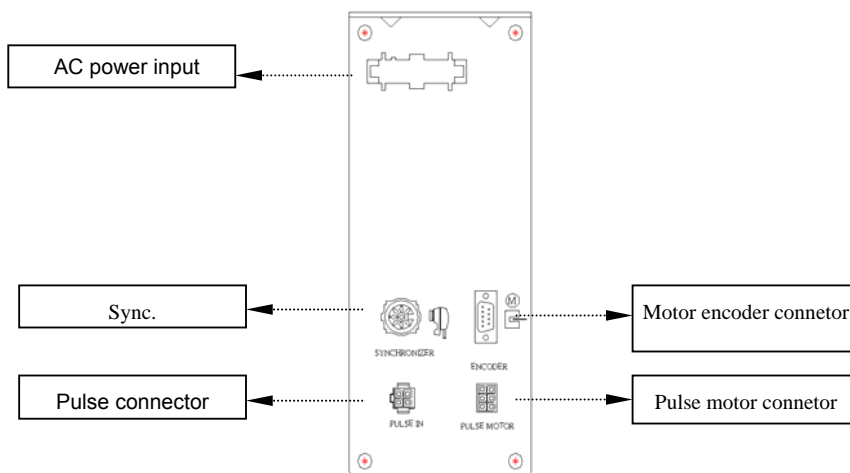
c).Illustration after installation



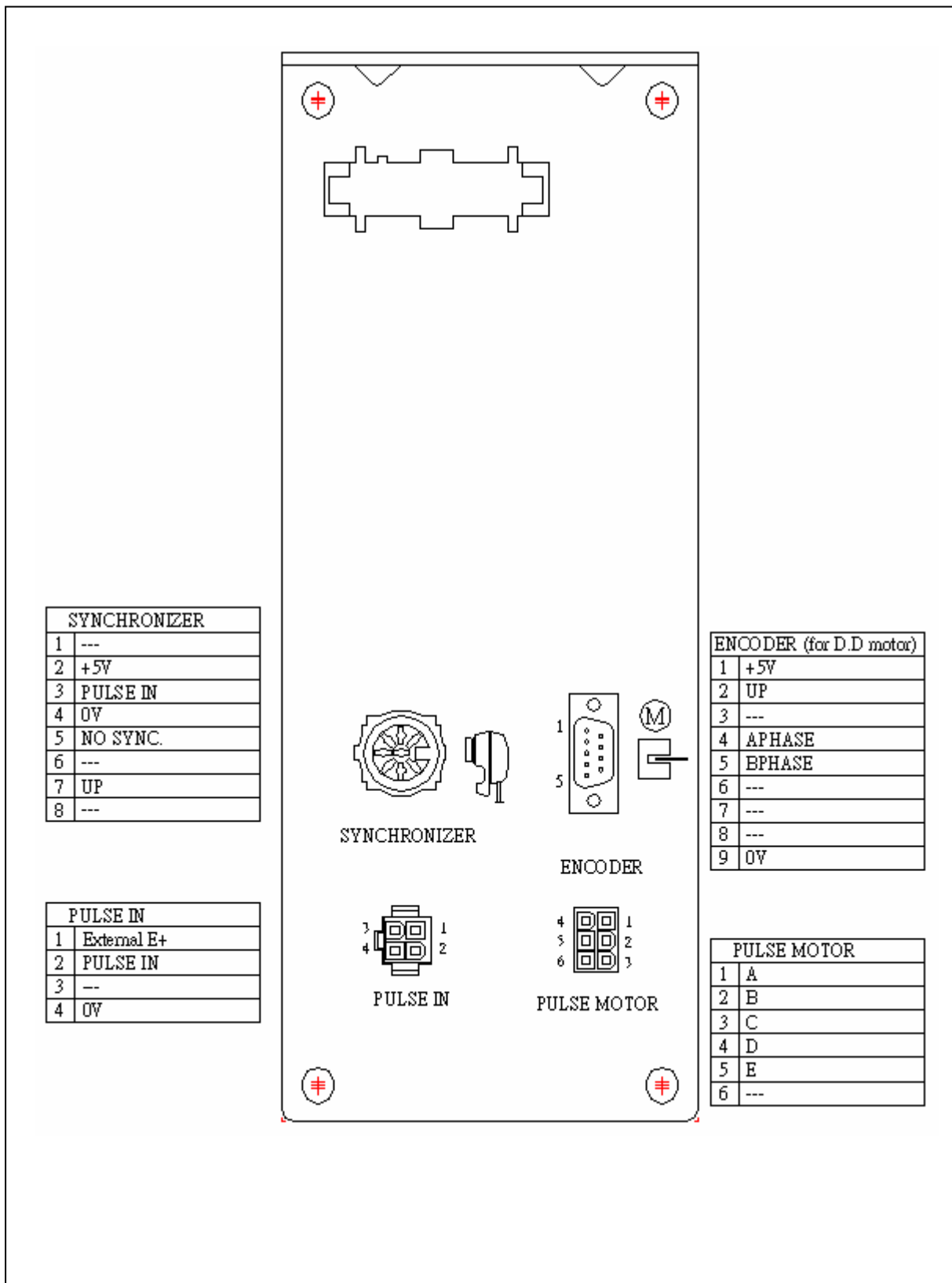
Front side :



Rear side:

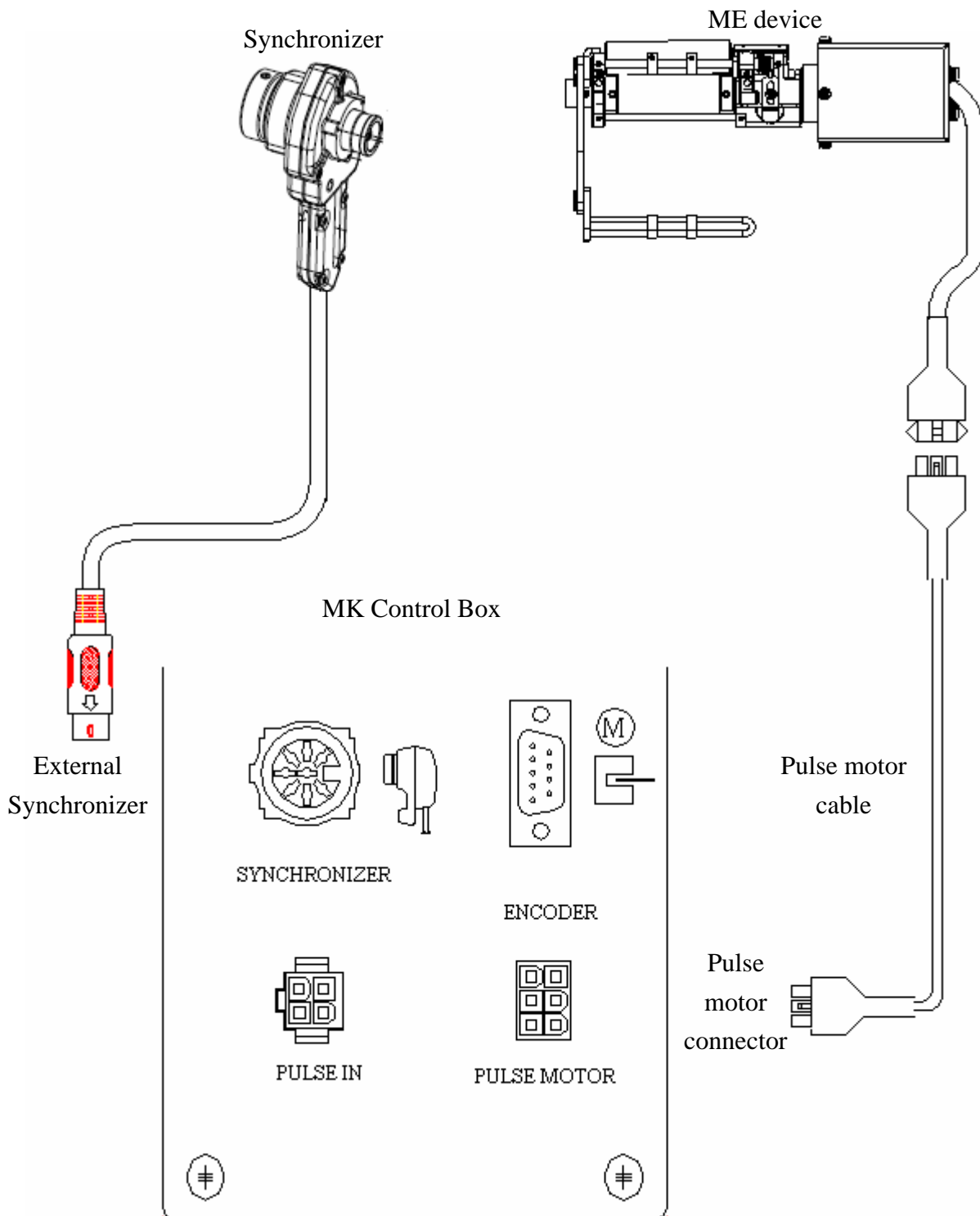


Pin assignment :

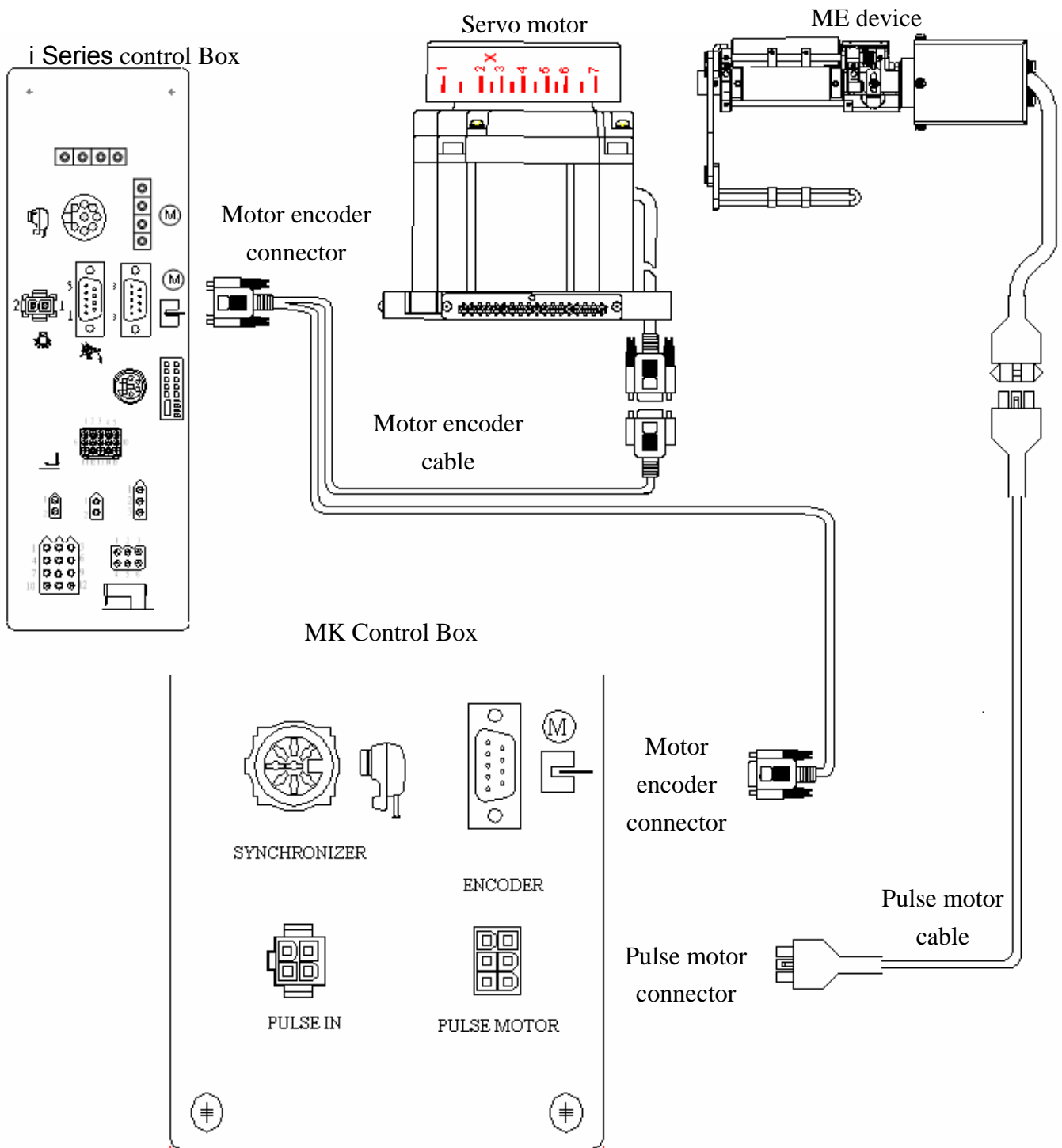


Connection for diagram illustrating :

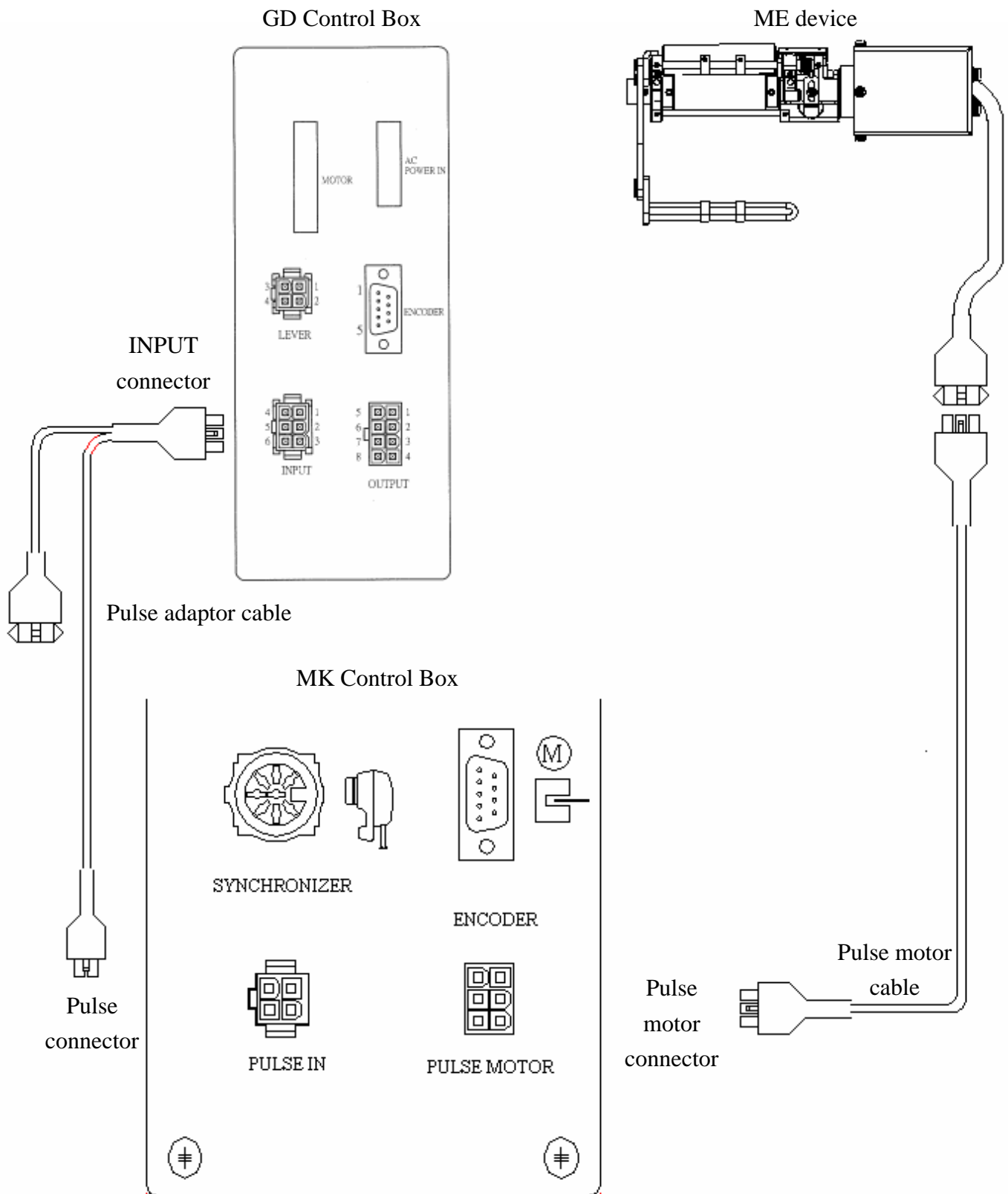
1. General Installation



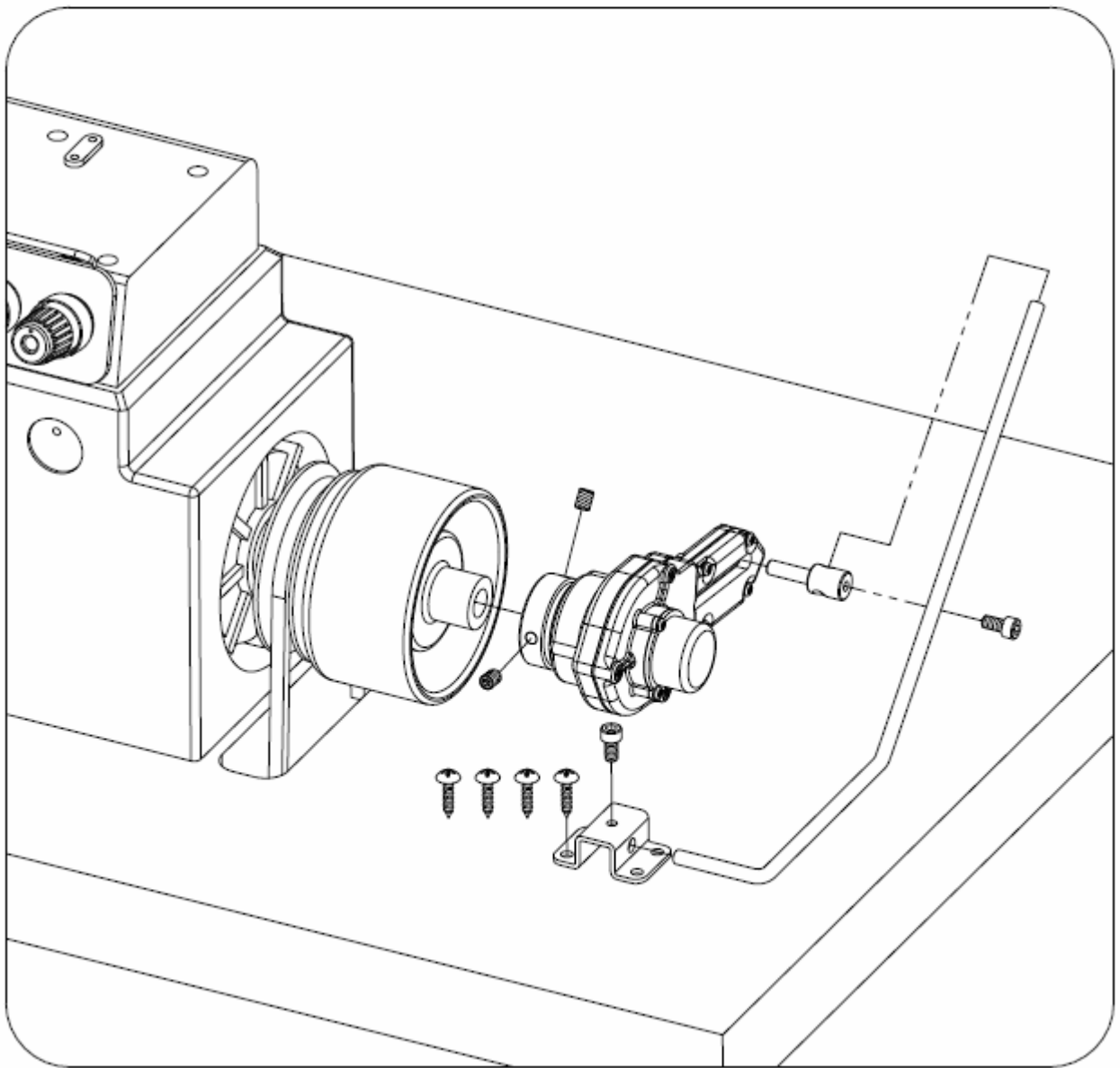
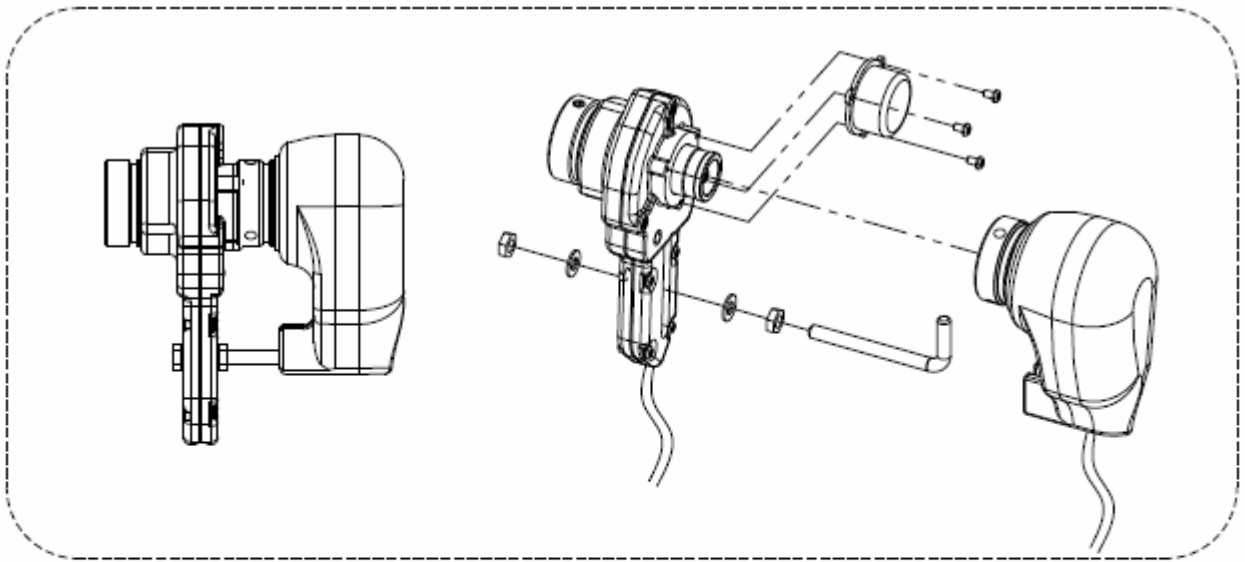
2. i Series - D.D. Servo motor



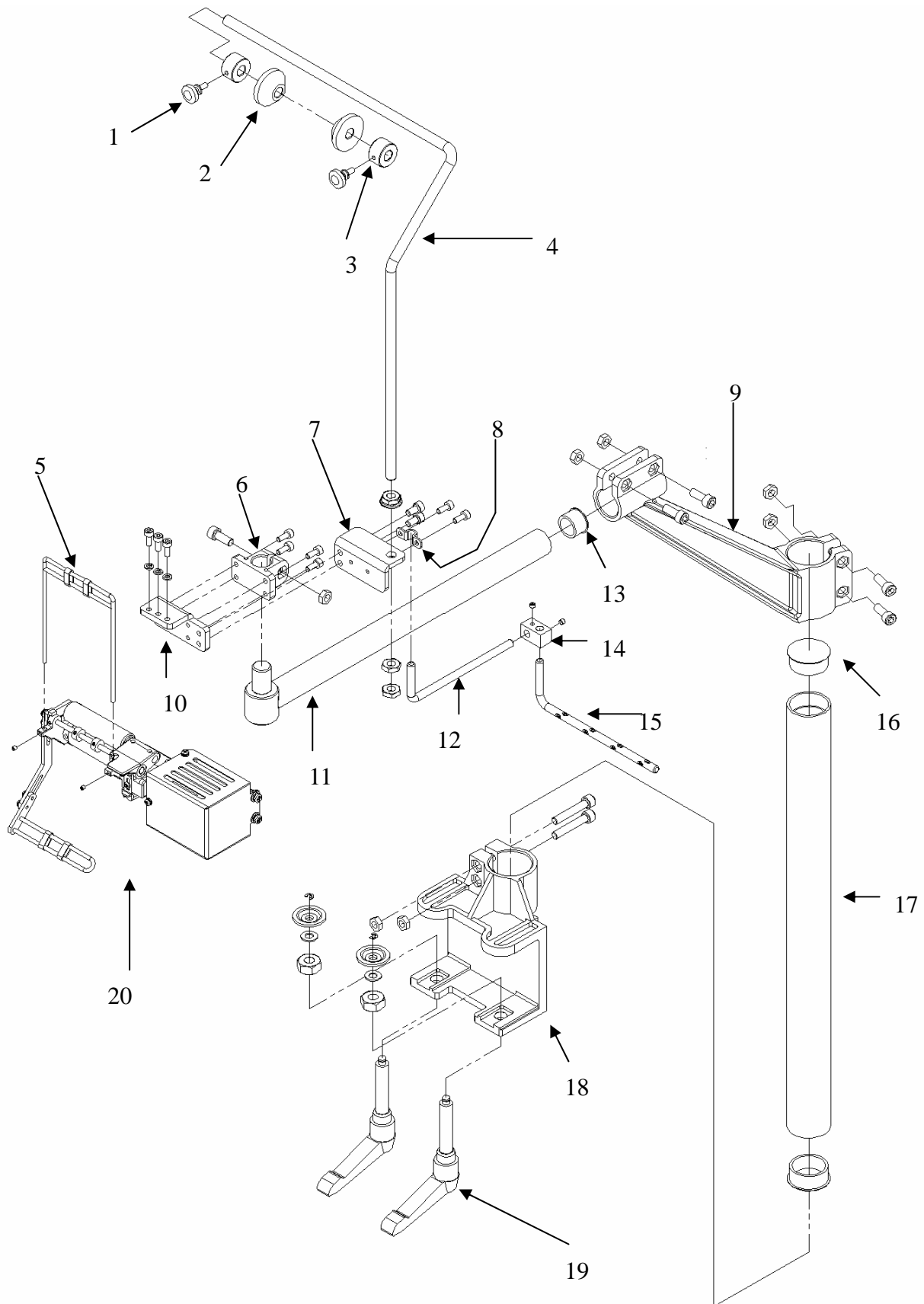
3. GD – D.D. Servo motor



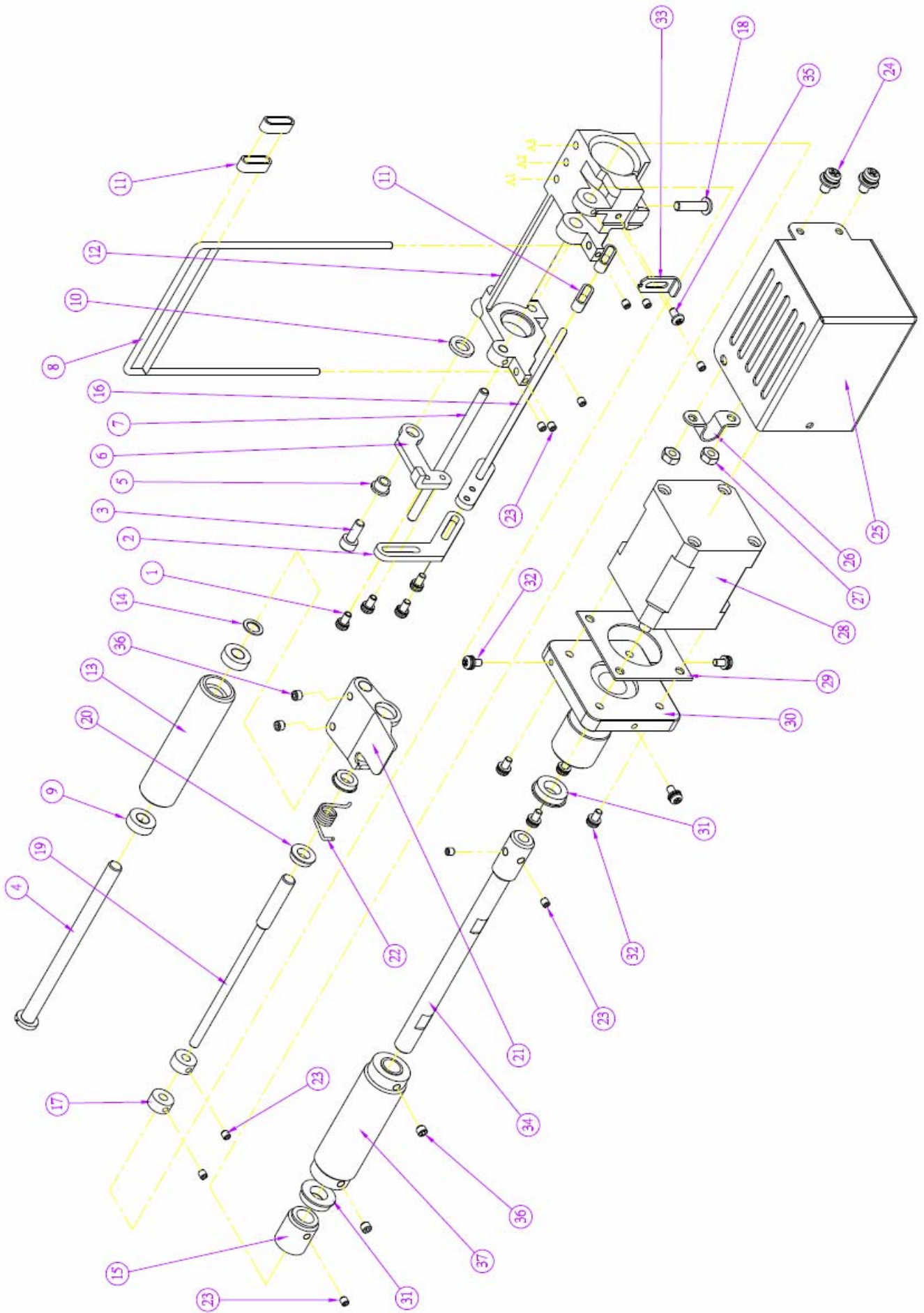
Synchronizer for diagram illustrating :



IV. Spare

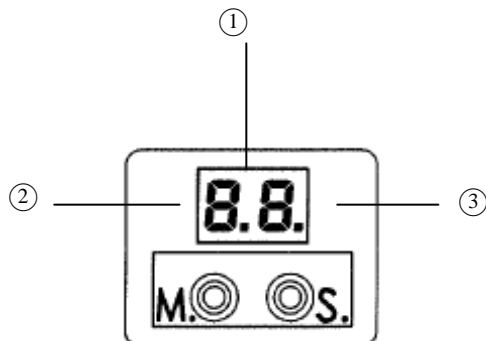


NO.	Part No.	Name	Quantity
1	331SQ2070	Collar screw	2
2	313FDD820	Tape supports	2
3	313FDD810	Collar	2
4	313FDD780	Tape support rod hanger	1
5	313FDD050	Tape guides	1
6	313FDD830	Tape feed support rod clamp	1
7	313FDD770	Bracket	1
8	33CRV5050	Tape support clamp	1
9	2MKMKSTD02001	Horizontal bracket	1
10	313FDD760	Mounting bracket	1
11	313FDD600	Tape feed support	1
12	313FDD790	Thread guide support rod	1
13	33CHY2060	Rod cap	1
14	312FDD170	Clamp block	1
15	313FDD800	Thread guide	1
16	33CHY2110	Rod cap	2
17	313FDD610	Main support rod	1
18	4MKSTD010	Table clamp	1
19	2MK3ZFDD06001	Clamping screws	2
20	2MKMPT01	Feed machinery	1



NO.	料號	名稱	數量
1	331SP1060	Round screw	4
2	313FDD061	Bracket	1
3	331HC1590	Hexagon screw	10
4	313FDD100	Shaft for auxiliary roller	1
5	313FDD120	Cap	1
6	313FDD040	Tape support rod bracket	1
7	313FDD090	Tape support rod	1
8	313FDD050	Tape guide	1
9	313BR4010	Ball bearing	2
10	33BWA1170	Wave washer	1
11	2ME58PLF10001	PVC sleeve	4
12	2ME12FDD01011	Body	1
13	313PY8020	Auxiliary roller	1
14	333WP1480	Washer	1
15	313FDD130	Hand wheel	1
16	313FDD070	Tape guide	1
17	313FDD150	Tape support	2
18	331HB1070	Hexagon screw	1
19	313FDD080	Tape guide	1
20	313BR4020	Ball bearing	2
21	2ME12FDD04011	Auxiliary roller bracket	1
22	33BLS4010	Spring	1
23	331SS1200	Hexagon set screw	11
24	331SP1150	Round screw	2
25	2ME13FDD01001	Protection cover	1
26	33CRV5050	Cable clamp	1
27	332NO1050	Hex nut	2
28	2ME3ZSMB08001	Stepping motor	1
29	316RB1440	Rubber gasket	1
30	2ME12FDD02011	Stepping motor bracket	1
31	313BR4030	Ball bearing	2
32	331SP1930	Round screw	7
33	313FDD020	Gasket	1
34	313FDD110	Drive roller shaft	1
35	331SP1530	Round screw	1
36	331SS1320	Hexagon set screw	4
37	313PY8010	Drive roller	1

V. function for normal



①  metering of feeding

Description: display the meter of every stitch, the range of meter is 0 ~ 180.

②  forward

Description: press the key to forward the tape.

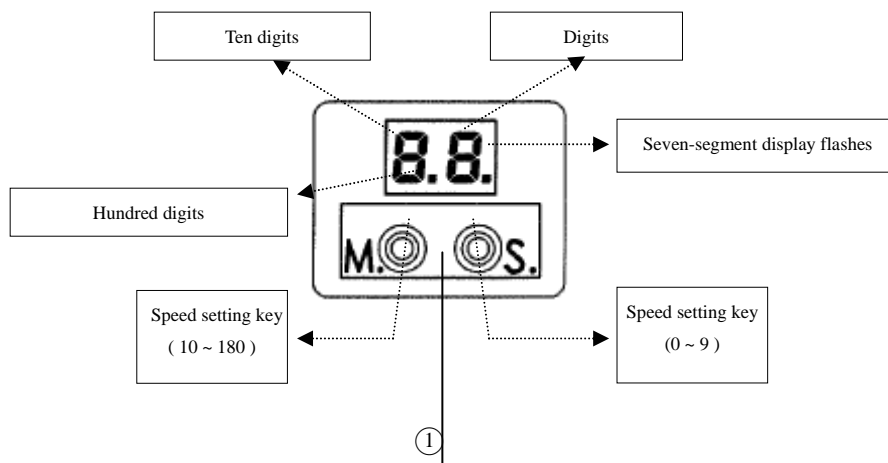
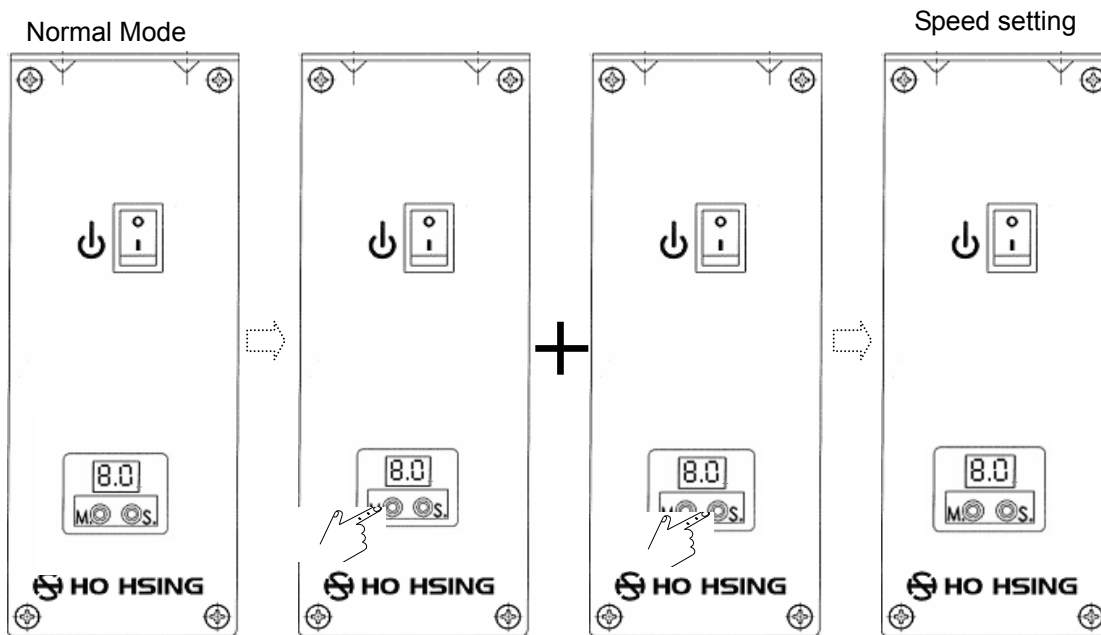
③  reverse

Description: press the key to reverse the tape.

VI. Speed setting

◎ How to enter 【Speed setting】 in the 【Normal Mode】 :

Enter the Normal Mode , press “M. ◎” and “S. ◎” key, at the same time.



⌀  meter feeding setting

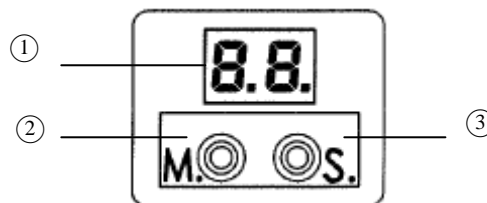
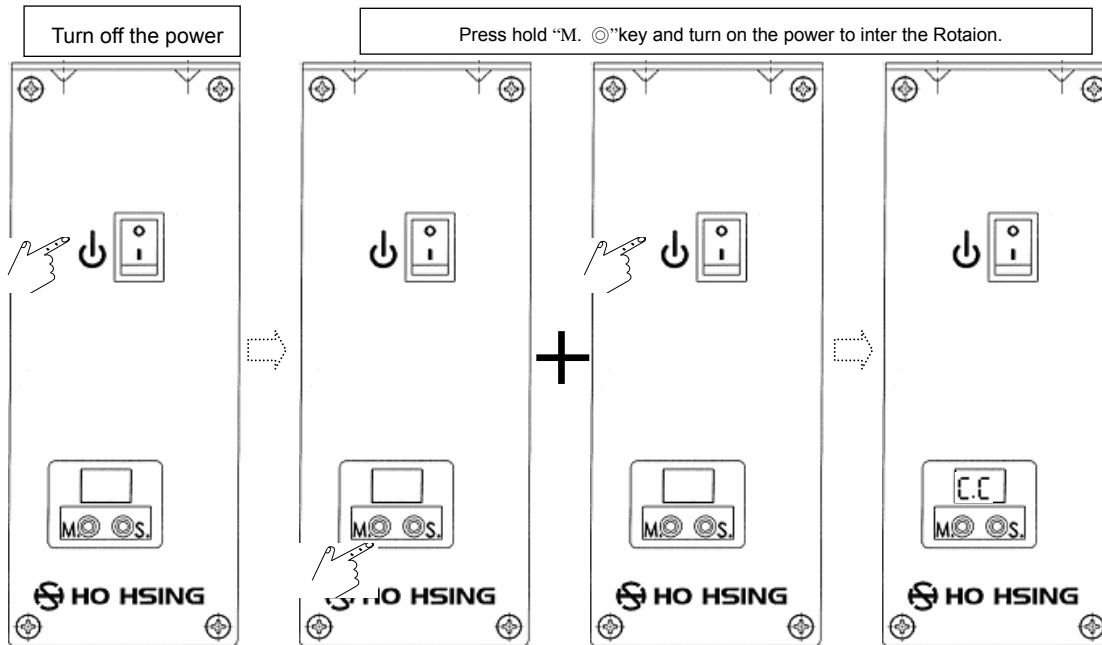
Description: set the feeding meter of every stitch, list below is the reference table.

For ME

Speed	feeding meter (mm)	Speed	feeding meter (mm)
0	0.00	100	2.44
10	0.24	110	2.69
20	0.49	120	2.93
30	0.73	130	3.17
40	0.98	140	3.42
50	1.22	150	3.66
60	1.46	160	3.91
70	1.71	170	4.15
80	1.95	180	4.39
90	2.20		

VII. Rotation

◎How to enter the 【Rotation】 :



① **8.8.** metering of Rotation

Description: display the clockwise/ counter clockwise of feeding motor.

② **M.** Rotation

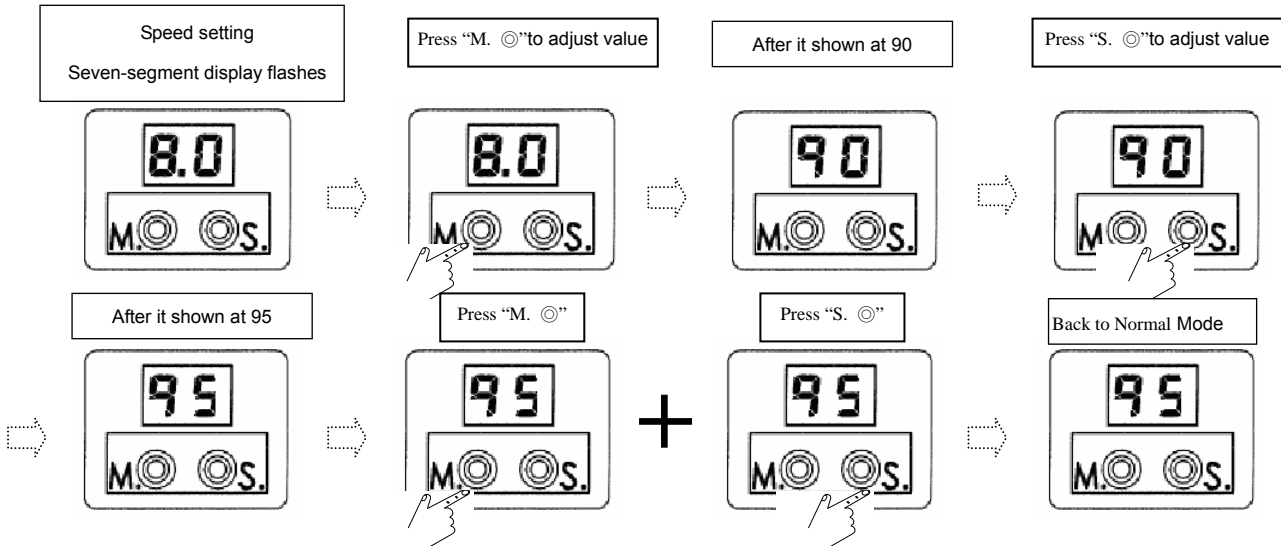
Description: clockwise/ counter clockwise for feeding motor.

③ **S.** return

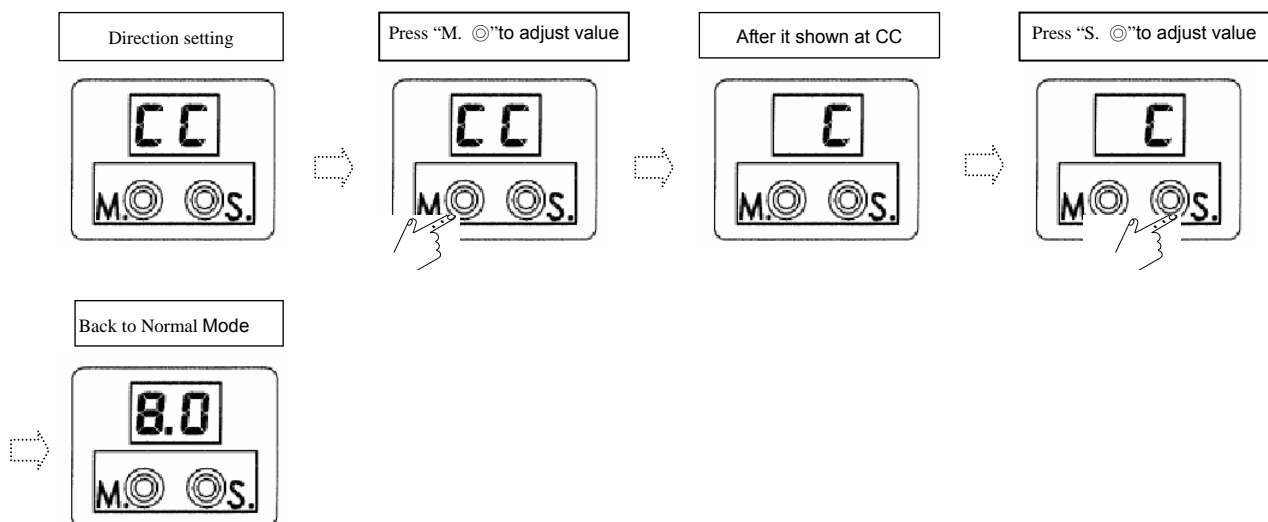
Description: return to Normal mode.

VIII. Operation

◎ Example : Speed adjust - Reduce the feed rate , factory default setting 【180】 adjust to 【95】 :













◎ Example : Rotation adjust - Feeding motor steering switch , Factory default setting 【CCW】 decrease to 【CC】 :






















七段顯示器字體與實際數值對照表：

7-Segment Display Characters Compare Table

數值字體部份：（Arabic Numerals）

實際數值 Actual	0	1	2	3	4	5	6	7	8	9
七段顯示器 Display										

英文字體部份：（English Alphabet）

英文數字 (Actual)	A	B	C	D	E	F	G	H	I	J
七段顯示器 (Display)										
英文數字 (Actual)	K	L	M	N	O	P	Q	R	S	T
七段顯示器 (Display)										
英文數字 (Actual)	U	V	W	X	Y	Z				
七段顯示器 (Display)	