

## 320A. 500A. 800A.

## W Type Power Rails

### 公司簡介

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貳、工程實績照片 (P.4)

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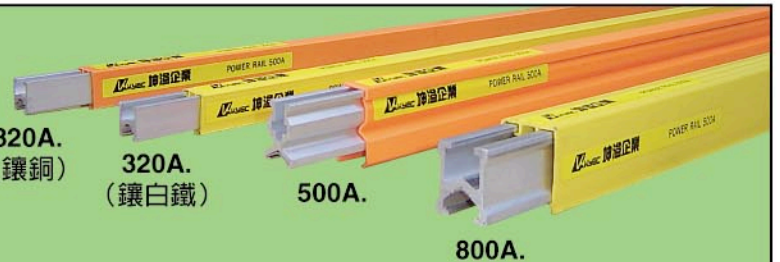
陸、尾頁工程實績照片

320A.  
(鑲銅)

320A.  
(鑲白鐵)

500A.

800A.





## 簡介：

W型安全軌道，是公司一項技術的突破。

本公司自民國六十三年創立以來，即秉持著技術、服務、可靠的理念，專業從事吊車修理及相關工程改善，並因屢次的零件取得不易，受制於國外的價格，且進口費時，故致力於零組件之生產及改良，而有幸榮獲多項專利，並將之標準化、本土化，目標是一律以現貨供應，縮短工程備料時間，回饋業界。

據知，德國自1912年即開始使用安全電軌，更鑑於裸銅線的安全性差，著手開始研發，進而量產60A~150A連續性軌道，深獲業界的支持與愛護。

累積經驗下，又見於市場無較高安培數電軌，而W型就是本公司的高安培數（參考德製電軌），所以品質是 **GLOBE Star** 最基本的要求。

業界的支持與肯定，是公司繼續研究發展的原動力，讓我們一起為各位提供安全性與自動化的相關工程服務。

坤溢企業有限公司

總經理

譚中雄暨全體員工 上

## INTRODUCTION

The production of GLOBE STAR "W" type safe power rails is the results of a technological breakthrough.

Being specialized in hoist repair and related engineering innovation, we provide our customers with excellent services backed up by persistent devotion, responsibility and advanced technology. In order to overcome the difficulties that we have been confronted with during part importing, we are dedicating ourselves to the production and innovation of parts and components. Also, we have obtained numerous patents approved either by the ROC or overseas countries. We supply our customers with readily available engineering materials and technical assistance to shorten your preparation time.

### Power Rails

Knowing the Germany has been using safe power rails since 1912 and bare conductor simply doesn't guarantee safety, we began to research, develop, and then mass produce 60-150 amp continuous rails, and have been highly recommended by our business partners.

We discovered that there are no high amperage power rails available on market, so we began to produce "W" type power rails with reference to German-made units.

With support and affirmation from our customers, we will continue our research and development work, offering our clients safe and automated engineering services.

Quality is a basic requirement for **GLOBE Star** products.

## 壹、W型電軌特點

### Features:

- Made of aluminum and edged with stainless steel, the surface of this unit is erosion-resistant, and will not become oxidized. Can be used in a damp environment, ensuring good connection and durability.
- With a "Λ" type contact surface, the brush can automatically correct its way as it moves forward on the rail. This type of surface maintains close contact, ensuring better electrical conduction. The lead angle of the conductor prevents the collector mount from tripping-out, enabling it to move more smoothly.

### W320 · W500 · W800 電軌特點

#### \* 導體部分：

材質為鋁本體鑲不銹鋼；接觸面為不銹鋼，其作用為質密耐磨及表面不易氧化，可適應劣質溼氣較重之環境，而無銹蝕，接觸不良，或電刷磨損過快之毛病。

接觸面為“Λ”字型，電刷行走其溝底具有自動校正功能，增加接觸面積，並使接觸更緊密，導電效果更佳。導體端頭導角使集電架行走時更順暢，不會跳脫。

#### \* 接頭部分：

加設一“□”型導入座，可使電軌導體延伸導入不會偏移，銜接密切，永無8字型推入式接觸不良及壓降過高之毛病。本電軌為參考西德之產品而設計製造，其設計理念佳，謹列上特點，歡迎比較。

#### \* 電軌夾：

為塑鋼一體成型，按裝採直接壓迫嵌入法，方便簡單，免重覆鎖螺絲、節省時間。

#### \* 集電架：

採用塑鋼製雙臂配強力型彈簧，結構設計完整、關節靈活、耐用。

#### \* 電刷：

採日本及西德電刷原料，粉末冶金、精煉，並經繁瑣之加工程序而成，具有優良之導電性、耐磨性。





▲ 800A



▲ 800A



▲ 500A



▲ 320A



▲ 320A



▲ 800A



▲ 320A. / 500A.



▲ 320A

※W型電軌工程實績用於中船、中鋼、台電、台機、台塑…等廠內設備。



## 貳、選用何種安培數 General technical information

### A. 交流三相電動機之全載電流表 Motor nominal currents

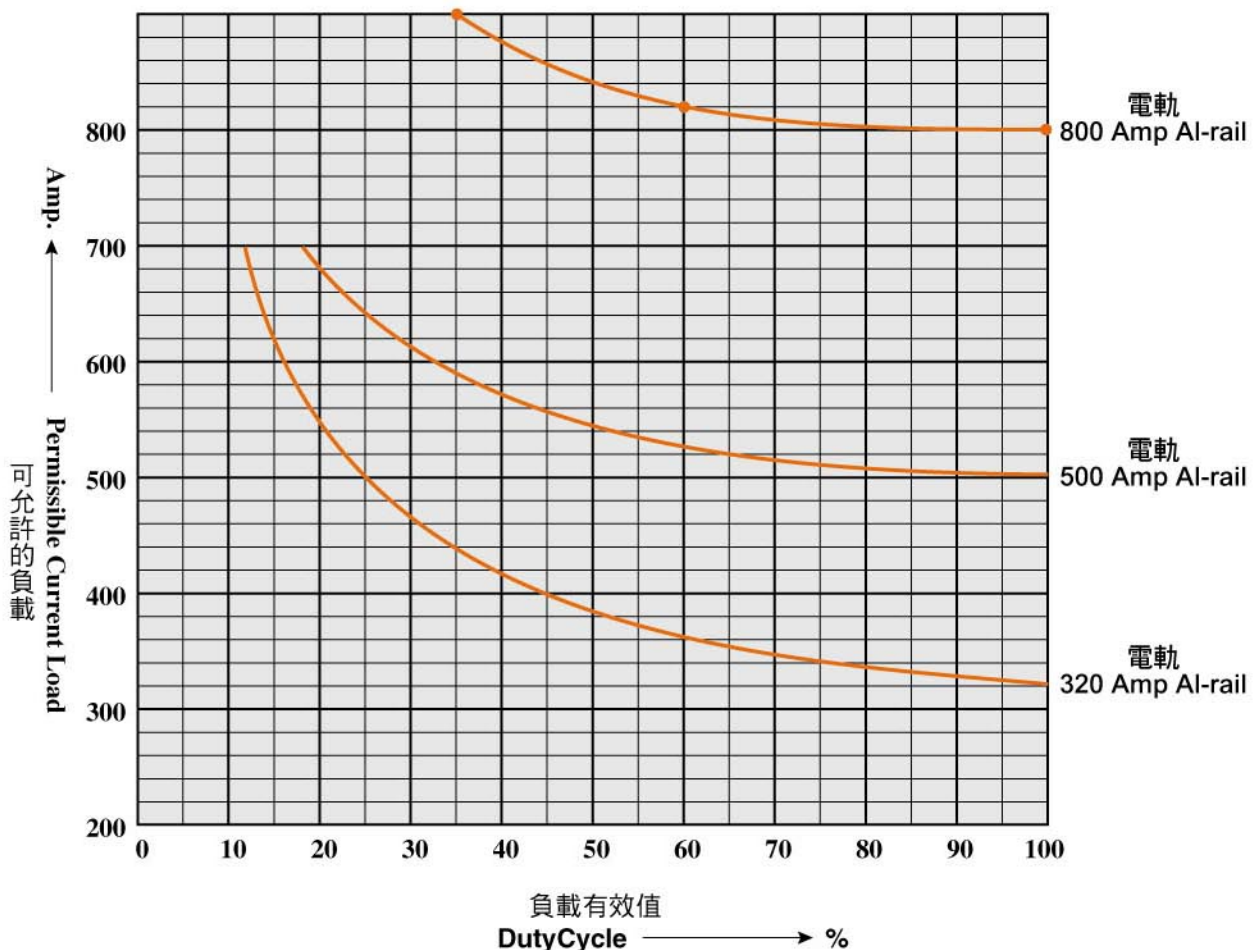
電動機 形式	感應籠型及捲線型 Squirrelcage & wound roter (Amp)					同步型 Synchronous Motor ※功率因數為整數 (Amp) On normal excitation				
	VOLTS H·P	110V	220V	380V	440V	550V	220V	440V	380V	550V
1/2	4	2	1.2	1	0.8					
3/4	5.6	2.8	1.7	1.4	1.1					
1	7	3.5	2	1.8	1.4					
1 1/2	10	5	2.6	2.5	0.8					
2	13	6.5	3.5	3.3	1.1					
3	-	9	5	4.5	1.4					
5	-	15	8.5	7.5	6					
7 1/2	-	22	11.5	11	9					
10	-	27	15.5	14	11					
15	-	40	23	20	16					
20	-	52	30	26	21					
25	-	64	38	32	26	54	27	32	22	
30	-	78	44	39	31	65	33	38	26	
40	-	104	57	52	41	86	43	50	35	
50	-	125	72	63	50	108	54	62	44	
60	-	150	85	75	60	128	64	74	51	
75	-	185	104	93	74	161	81	93	65	
100	-	246	135	123	98	211	106	122	85	
125	-	310	169	155	124	264	132	152	106	
150	-	360	204	180	144	-	158	183	127	
200	-	480	300	240	192	-	210	243	168	

註：

1. 額定電壓為208及200者，可讓220V之相當值各增加百分之6及10的負載。
2. ※如功率因數為0.9及0.8者，左表有關數值應分別乘以1.1及1.25倍。
3. 極數超過6極，及起動轉矩特別大者其全載電流大於本表之標準值，以據銘牌之標示值為準。
4. 採錄自電工法規P.514。

B. 相關技術資料較繁多，請來電再行寄上，謝謝。

C. 負載曲線 Current-carrying diagram for different duty cycle



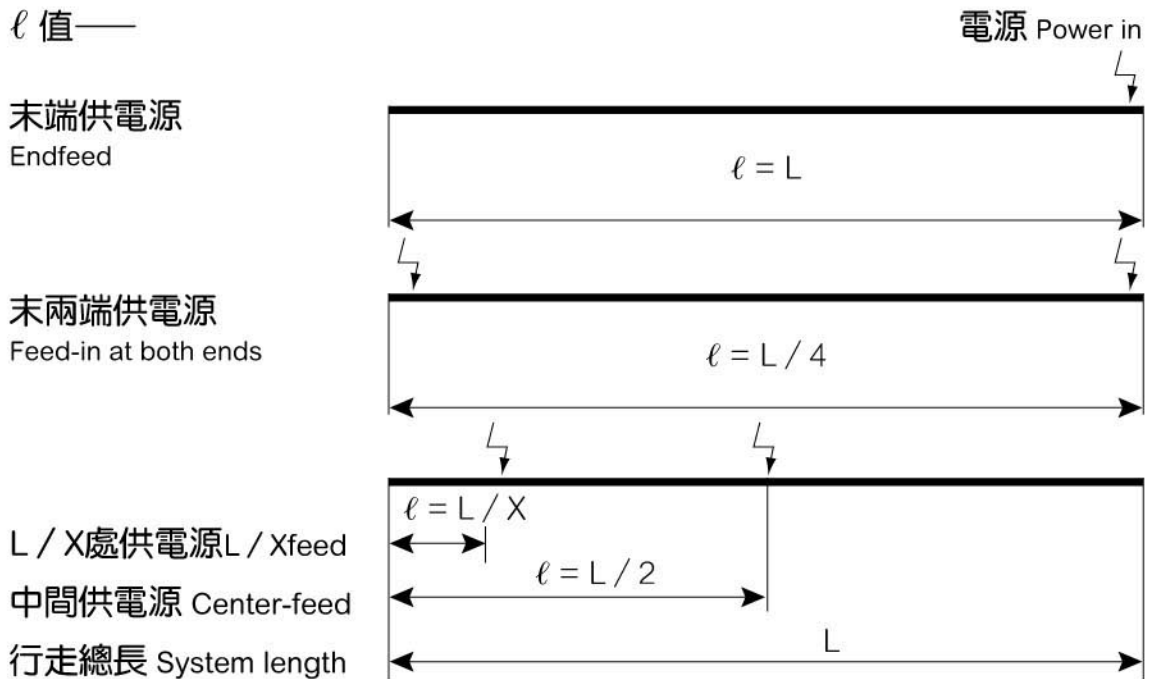
**\* 電壓降  $\Delta U$  計算方法： Formulas for the calculation of the voltage drop  $\Delta U$**

- $\Delta U = \sqrt{3} \cdot \ell \cdot I_G \cdot Z$ ..... 三相電源供電 For three phase current  
 $\Delta U = 2 \cdot \ell \cdot I_G \cdot Z$ ..... 單相電源供電 For alternating current  
 $\Delta U\% = \Delta U / U_N \cdot 100\%$ ..... <3.0% (安全數據) Safety index number  
 $\Delta U$ ：電壓降 Voltage drop [ V ]                       $\ell$ ：供電位置值 feeder length [ m ]  
 $I_G$ ：總負載電流量 Total Currents [ A ]               $Z$ ：電阻抗 Impedance of conductor [  $\Omega/m$  ]  
 $U_N$ ：供電電壓 Operating Voltage [ V ]

Z 值——

型 號	W320	W500	W800
Z 值	0.00032	0.00017	0.00016

$\ell$  值——



**\* 範例 Calculation sample**

現場資料 Problem to be solved：行走長度  $L = 190m$ .

供電電壓  $U_N = 3$  相，380v.

中間供給電源 Center - feed

吊車共5台如下

	主機 Hoist	小車 Cross-travel	大車 Long-travel	合計 Total
1.	5 Ton.	0.75KW	1.5KW	54A
2.	5 Ton.	0.75KW	1.5KW	54A
3.	3 Ton.	0.37KW	0.74KW	31A
4.	3 Ton.	0.37KW	0.74KW	31A
5.	3 Ton.	0.37KW	0.74KW	31A

第一步： $I_G = 54A + 54A + 31A + 31A + 31A = 201A$

第二步： $\therefore I_G = 201A \quad \therefore$  選用 W320

第三步：W320  $Z = 0.00032$

代入公式

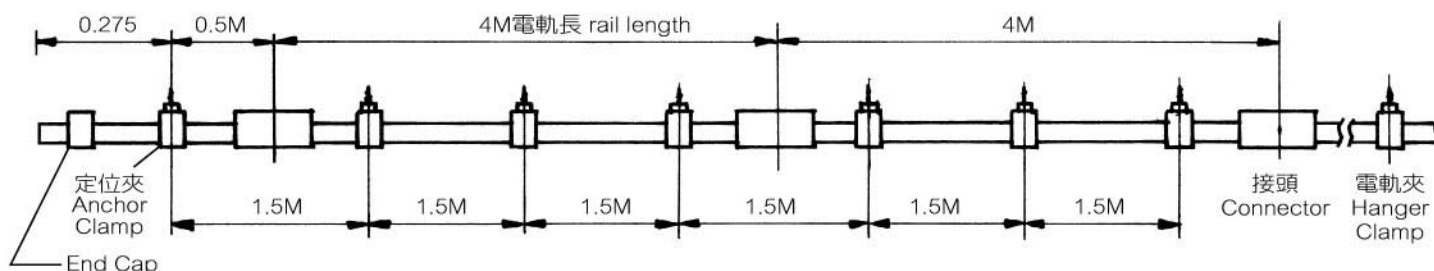
$$\begin{aligned} \Delta U &= \sqrt{3} \cdot \ell \cdot I_G \cdot Z \\ &= \sqrt{3} \cdot 190 / 2 \cdot 201 \cdot 0.00032 \\ &= 10.58 \end{aligned}$$

第四步： $\Delta U\% = \frac{\Delta U}{U_N} \cdot 100\%$   
 $= 10.58 / 380 \cdot 100\% = 2.8\% \dots \dots < 3.0\%$

結 果：所以選用 W320

## 參、如何叫料 Order example

### 一、W320 · W500 · W800

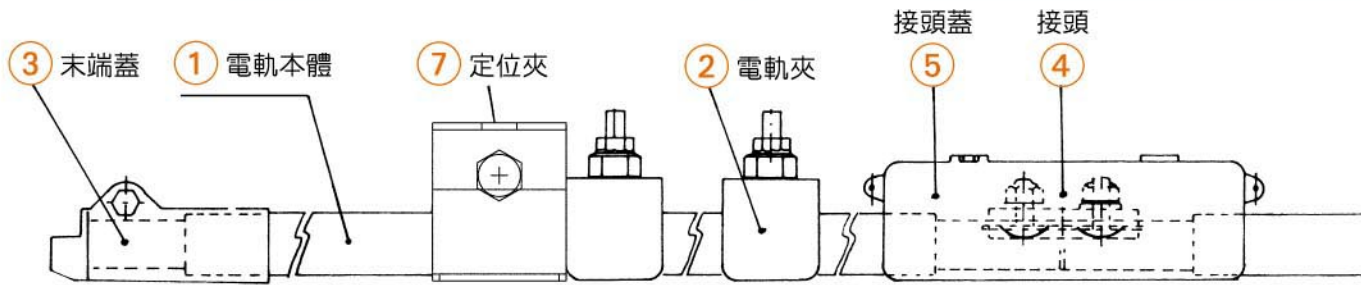


### \* 三相米 叫料標準參考表 Order Specification

長度	W電軌	電軌夾	接頭	接頭蓋	電源蓋	末端蓋	定位夾	集電架&棒組
30M	24支	66只	21只	18只	3只	6只	6只	Current collector * One crane be used One setg pole 一台吊車用一組
60M	45支	120只	42只	39只	3只	6只	6只	
120M	90支	20只	84只	81只	3只	6只	6只	

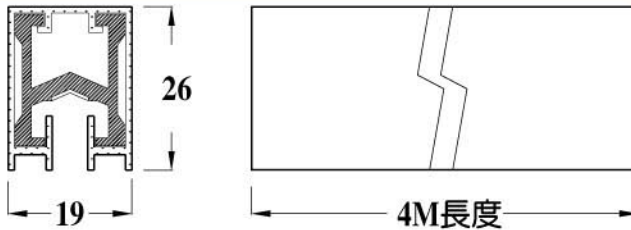
備註：W500、W800入電位置不同時，再行調整用量。



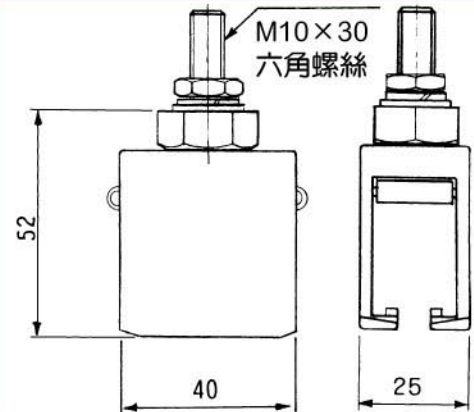


- |   |   |   |   |  |   |   |
|---|---|---|---|--|---|---|
|  |  |  |  |  |  |  |
| ① 電軌本體<br>Insulated<br>Conductor<br>Rail  | ② 電軌夾<br>Hanger<br>Clamp  | ③ 末端蓋<br>End<br>Cap   | ④ 接頭<br>Connector   | ⑤ 接頭蓋<br>Connector   | ⑥ 電源接頭蓋<br>Power Feed Cover   | ⑦ 定位夾<br>Anchor<br>Clamp  |

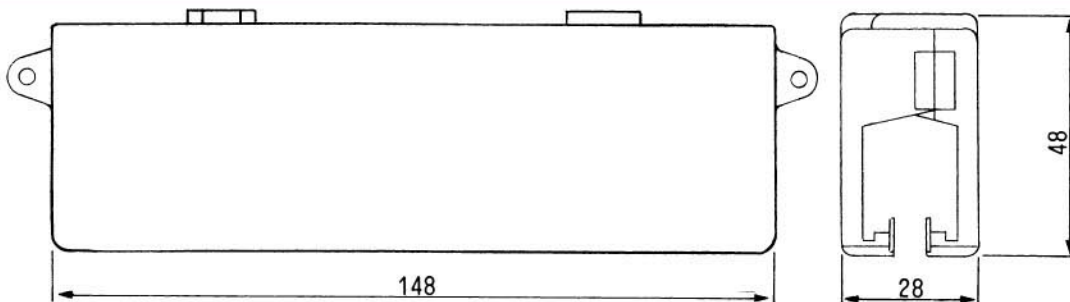
① 電軌本體 KY-AW02030 (鑲銅)  
KY-AW02032 (鑲白鐵)



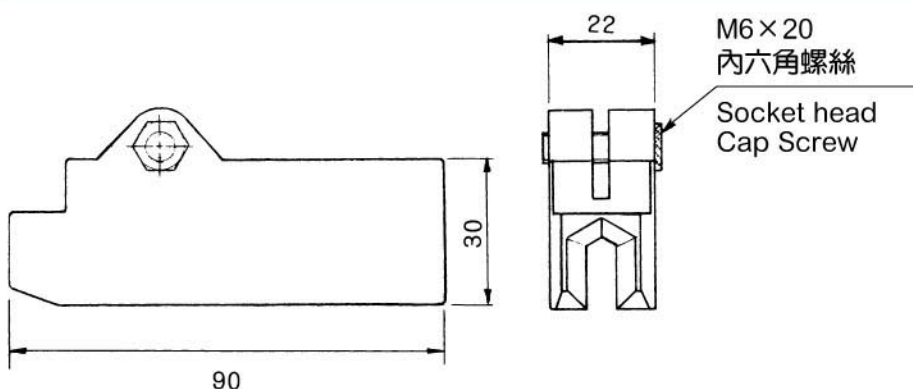
② 電軌夾 KY-AW02100



⑤ 接頭蓋 KY-AW02400



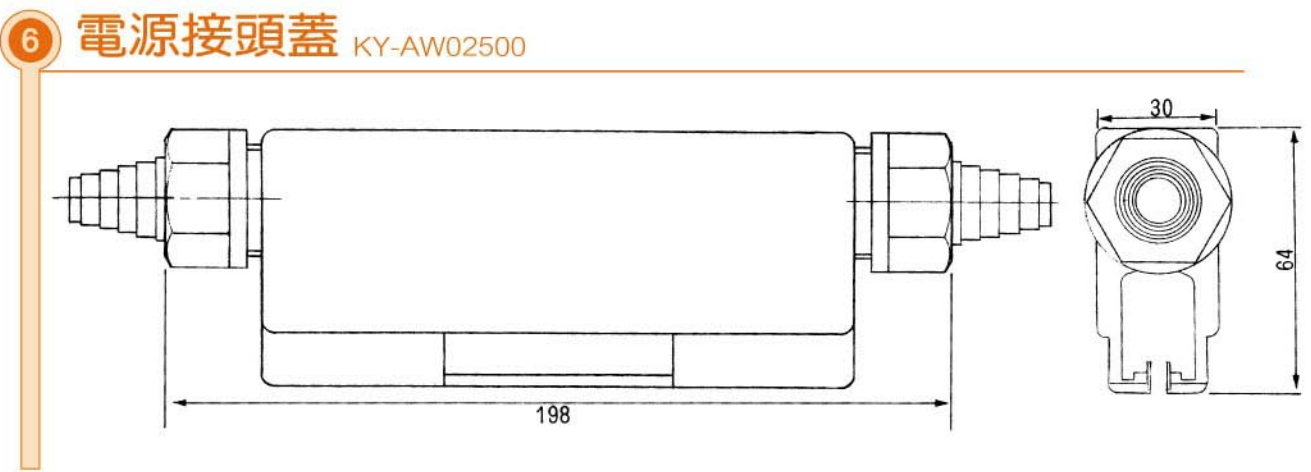
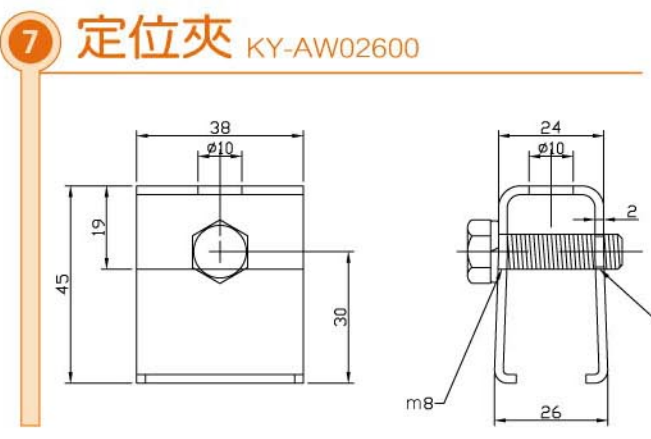
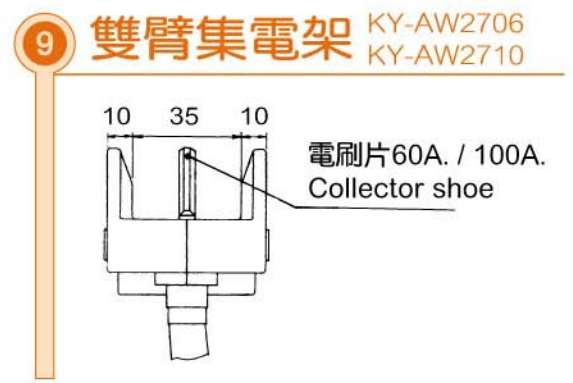
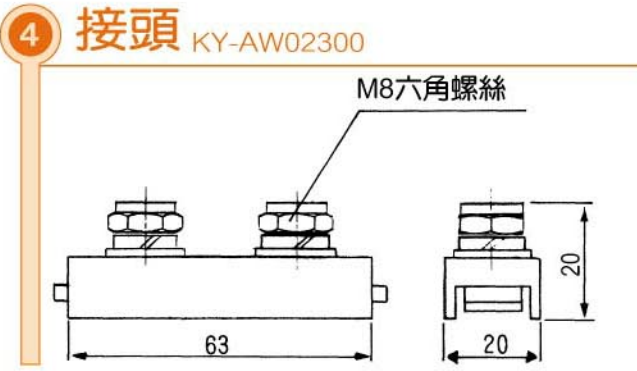
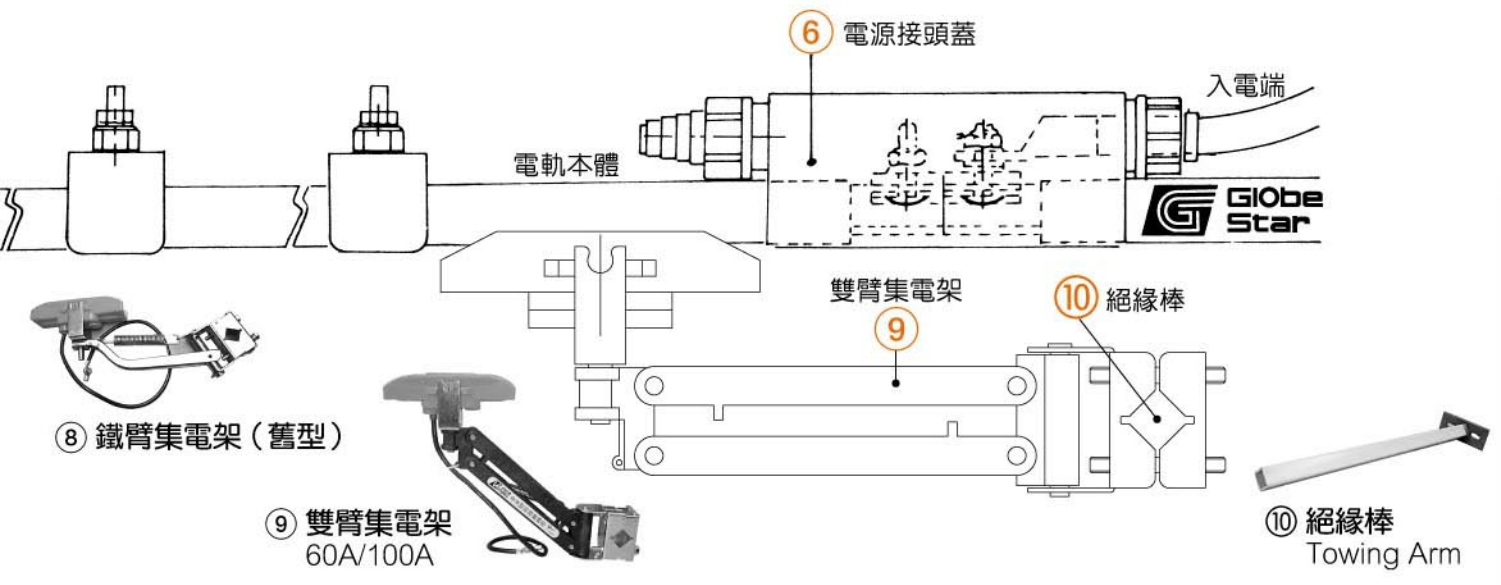
③ 末端蓋 KY-AW02200

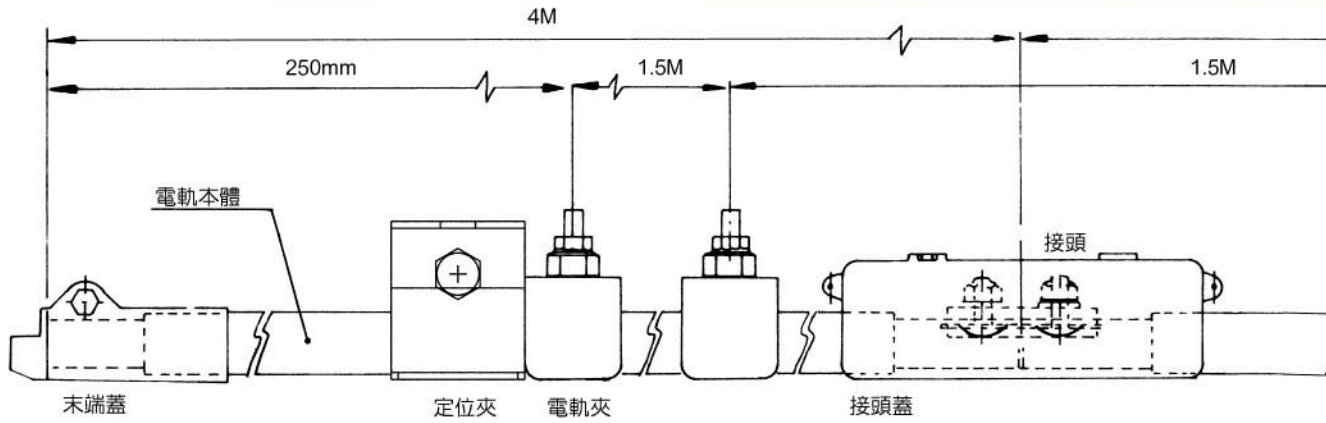




# Globe Star W型320A 零件圖

W型安全電軌供電系統



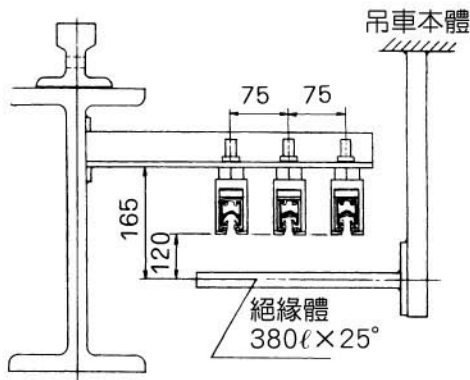


## 壹、施工設計

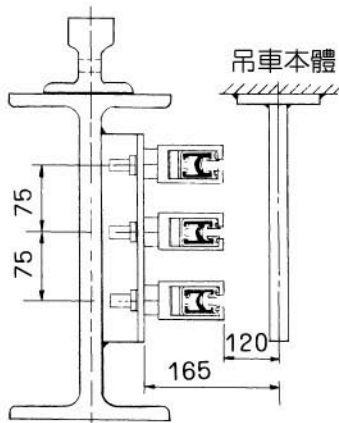
★吊架若不想鑽孔，本公司另有C型軌切一截，附上螺母片，旋轉六角座即可鎖緊。

### 1. Construction Design

\* If you don't want to drill holes on the hanger, there is a C track available for you to cut off to get a portion. Attach the nut and tighten the hexagonal set, then you may fasten the thing.



A、立式施工圖 Vertical



B、側式施工圖 Side

## 貳、電軌夾安裝圖

★由電軌夾開口，直接將電軌傾斜30°直接壓入，即可嵌進電軌吊夾。

### 2. Hanger Clamp Installation Diagram

\* Insert the power rail into the opening of the hanger clamp in an obliqueness of 30 degrees, then the power rail can be hold by the clamp.



## 參、接頭蓋、電源蓋安裝圖

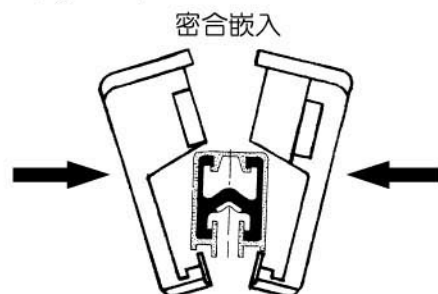
★電軌接頭蓋：先將蓋扣打開後，由下往上30°角以鉤角對凹槽，相向對中合在一起即可。

★電源蓋：方法與接頭蓋相同，先旋鬆塑膠螺母座，取下橡膠帽依電源線直徑，截出適合之孔徑穿線，鎖緊電源線，合蓋即可。

### 3. Connector Cover and Power Feed Cover Installation Diagram

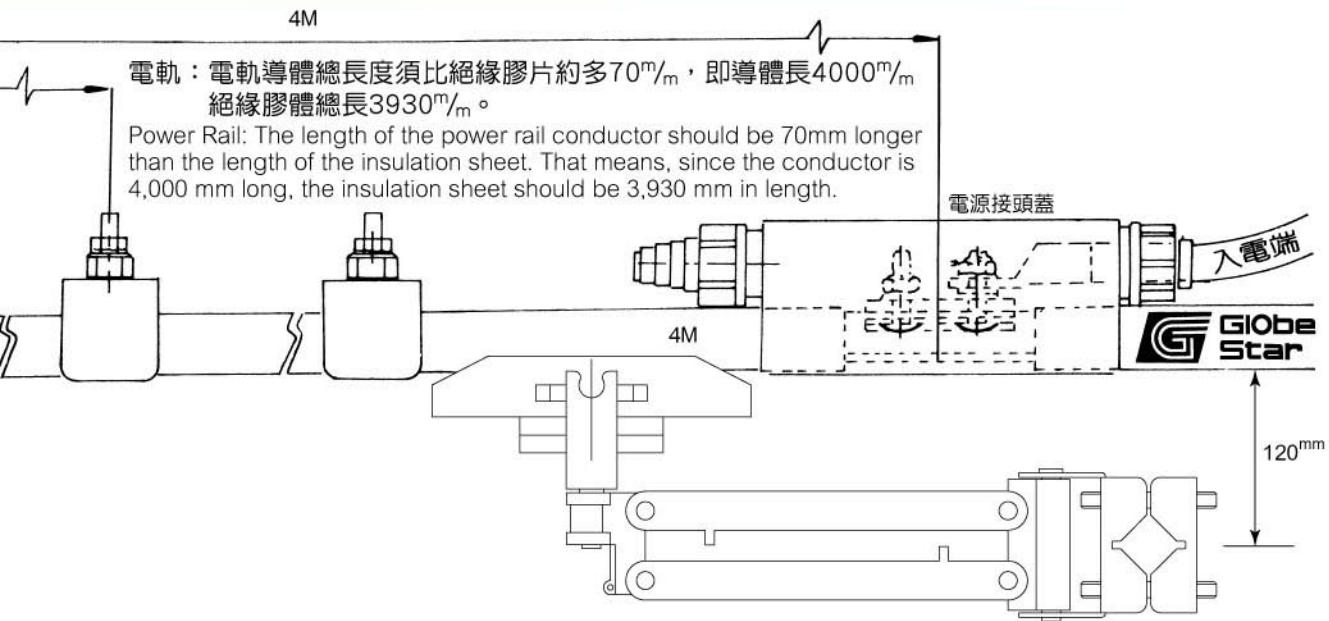
\* Connector cover: Open the cover, hook the scoop slot from bottom to top in 30 degrees and combine them together.

\* Power feed cover: loosen the plastic nut, take the plastic cap off and cut it for a proper aperture for piercing through the transmission line, tighten it, then close the cover.





# Globe Star W型320A 施工圖

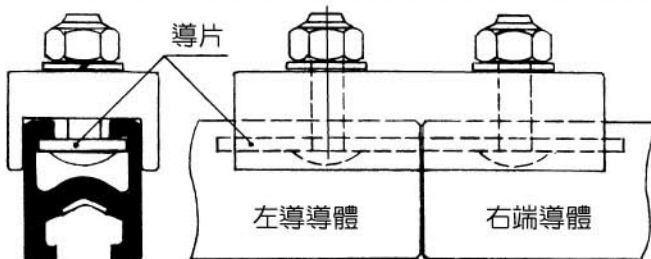


## 肆、接頭按裝圖

★先將接頭六角螺帽鬆開，順著U型導入座，插入電軌導體上方凹槽，兩端對中鎖緊即可。

### 4. Connector Installation Diagram

\* Loosen the loose-resistant nut on the joint, plug it to the scoop slot on top of power rail conductor according to the "U" type guide base, then tighten the two units together.



## 柒、絕緣棒、集電架按裝圖

★如上圖120mm。

★集電架與電軌平行，固定於絕緣棒。

★M4內六角定位螺絲須鎖緊。

### 7. Towing Arm and Current Collector Installation Diagram

\* As shown at the above diagram, 120mm.

\* Put the collector parallelly with the power rail, and fasten it on the insulating rod.

## 伍、定位夾按裝圖

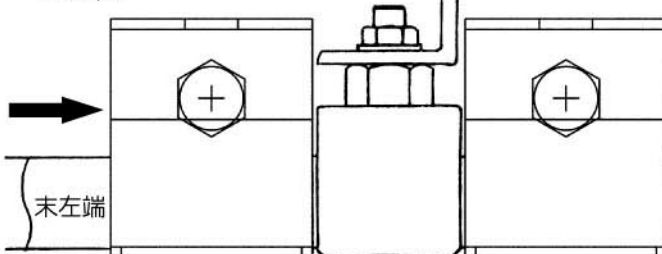
★每一條電軌線路，於電軌夾內外兩側以定位夾鎖緊防止電軌在電軌夾中間滑動。

在電軌夾未上前，先置入定位夾，待電軌夾鎖住後，再旋緊定位夾之六角螺絲即完成。

★安裝於最後那一端。

### 5. Anchor Clamp Installation Diagram

\* The positioning clamp is for tightening from inside and outside the power rail clamp for each power rail circuit to protect the power rail from moving in between the power rail clamps.



## 陸、末端蓋按裝圖

★將末端蓋插入電軌導體末端，敲二下即可。電軌導體末端須比絕緣塑膠多35<sup>m</sup>/m。

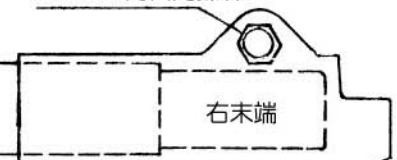
★左右末端各一

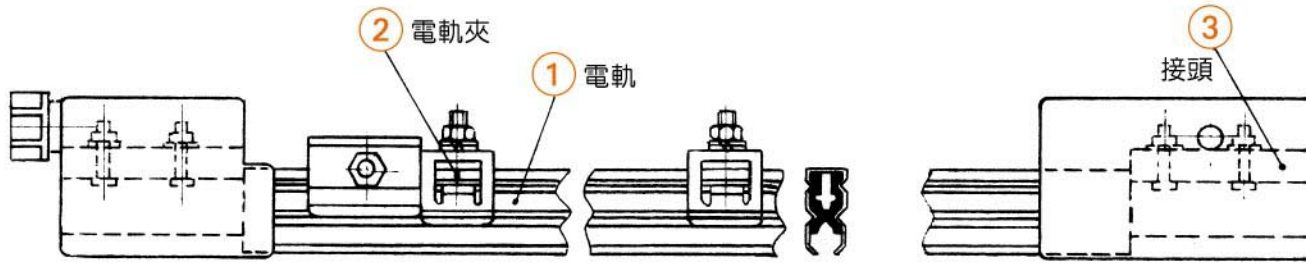
### 6. End Cap Installaiton Diagram







\* Insert the end cap to the end of the power rail conductor. knock twice will be OK. The end of the pwner rail conductor should be 35mm longer than the insulating plastics.

\* There should be one at each individual end.

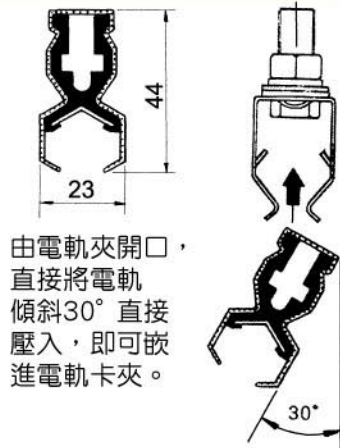
M6×20內六角螺絲



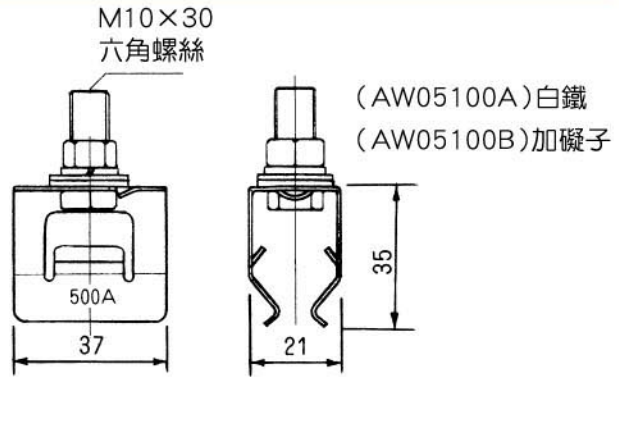


-   
**① 電軌本體**  
 Insulated Conductor Rail
-   
**② 電軌夾**  
 Hanger Clamp
-   
**③ 接頭**  
 Connector
-   
**④ 接頭蓋**  
 Connector Cover
-   
**⑤ 定位夾**  
 Anchor Clamp
-   
**⑥ 電源接頭**  
 Power Feed Cover

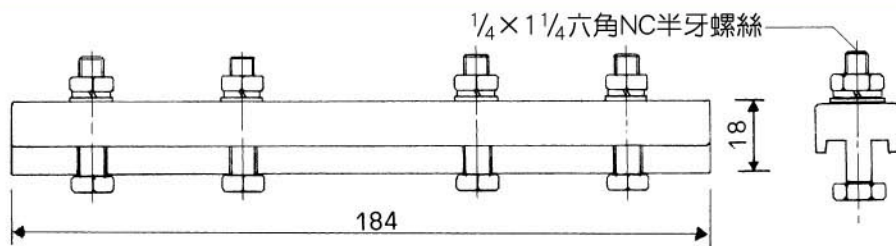
**① 電軌** KY-AW05050



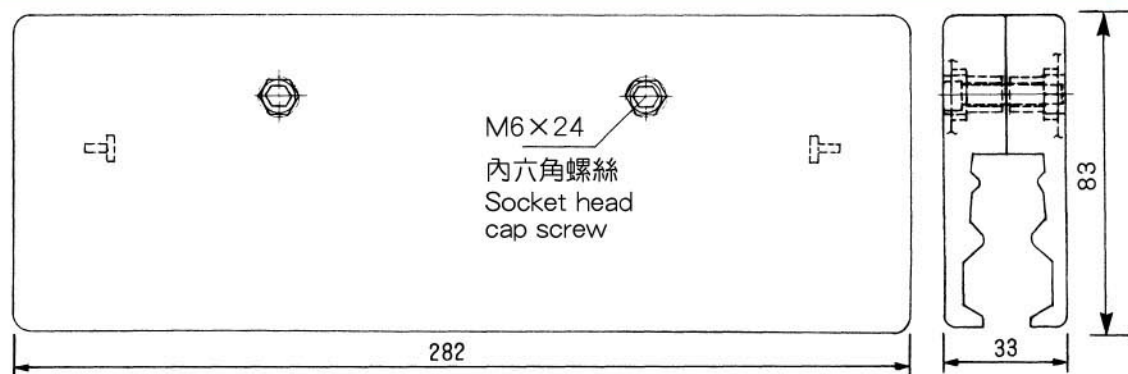
**② 電軌夾** KY-AW05100



**③ 接頭** KY-AW05300

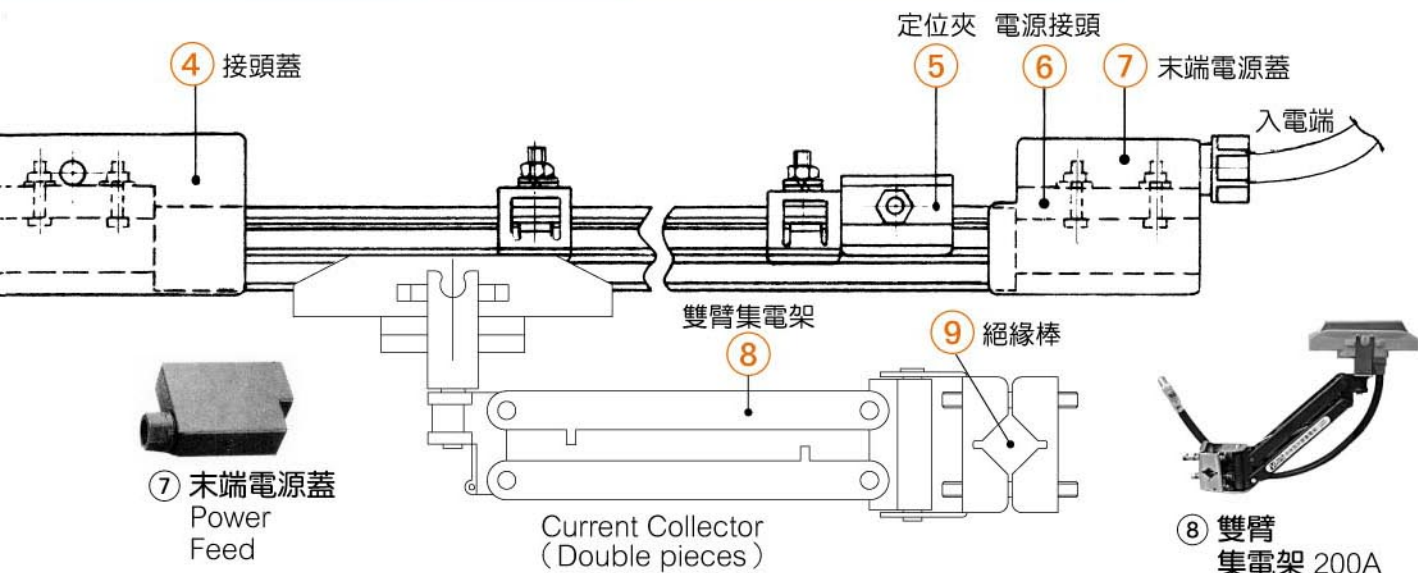


**④ 接頭蓋** KY-AW05400

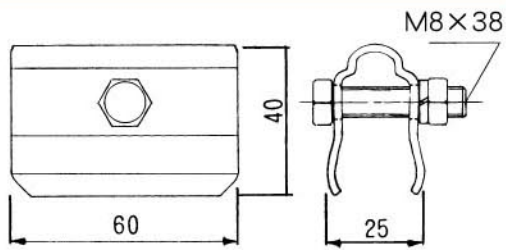




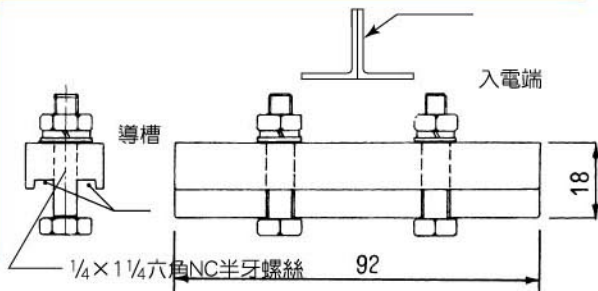
# Globe Star W型500A 零件圖



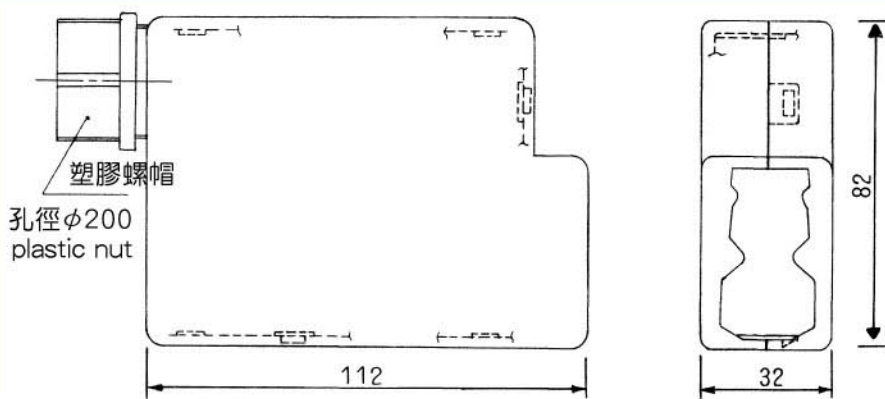
## 5 定位夾 KY-AW05600



## 6 末端電源接頭 KY-AW05301



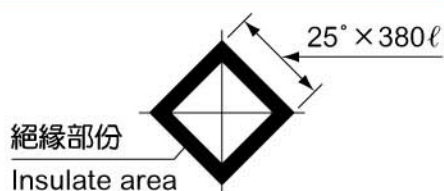
## 7 末端電源蓋 KY-AW05500

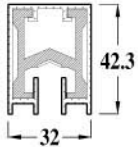
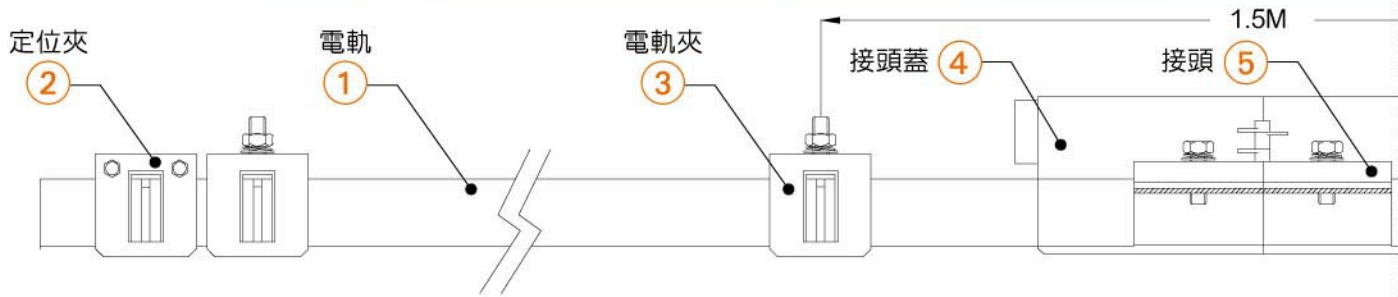


## 8 雙臂集電架200A KY-AW02720



## 9 絕緣棒 AN01838 (380m/ml) AN01850 (500m/ml)





① 電軌本體  
Insulated  
Conductor  
Rail



② 電軌夾  
Hanger  
Clamp



③ 接頭  
Connector



④ 接頭蓋  
Connector  
Cover

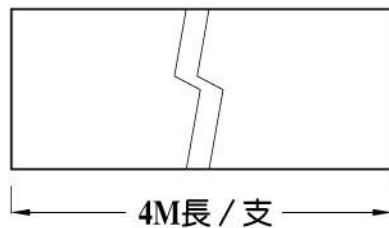
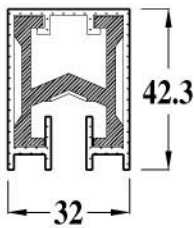


⑤ 定位夾  
Anchor  
Clamp

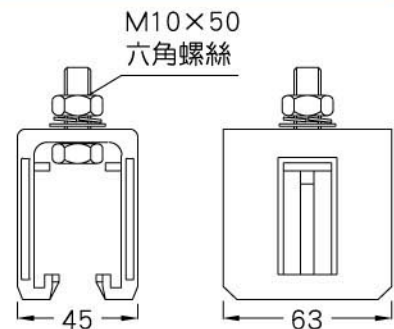


⑥ 電源接頭  
Power Feed  
Cover

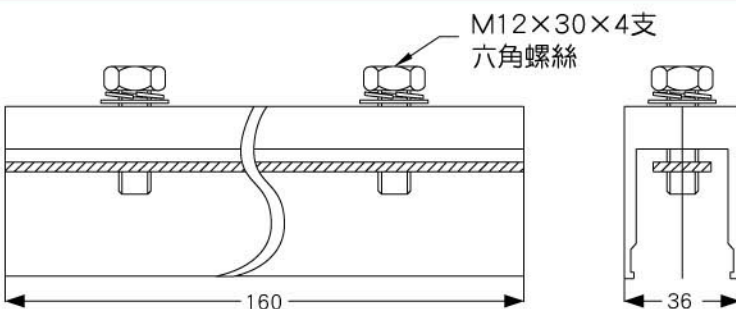
① 電軌 KY-AW08080



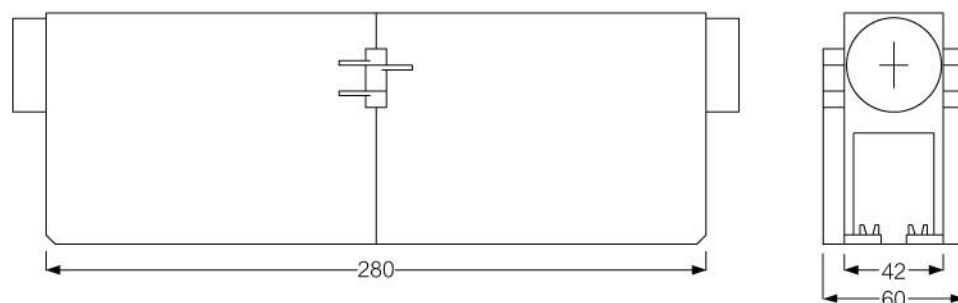
② 電軌夾 KY-AW08100



③ 接頭 KY-AW08300



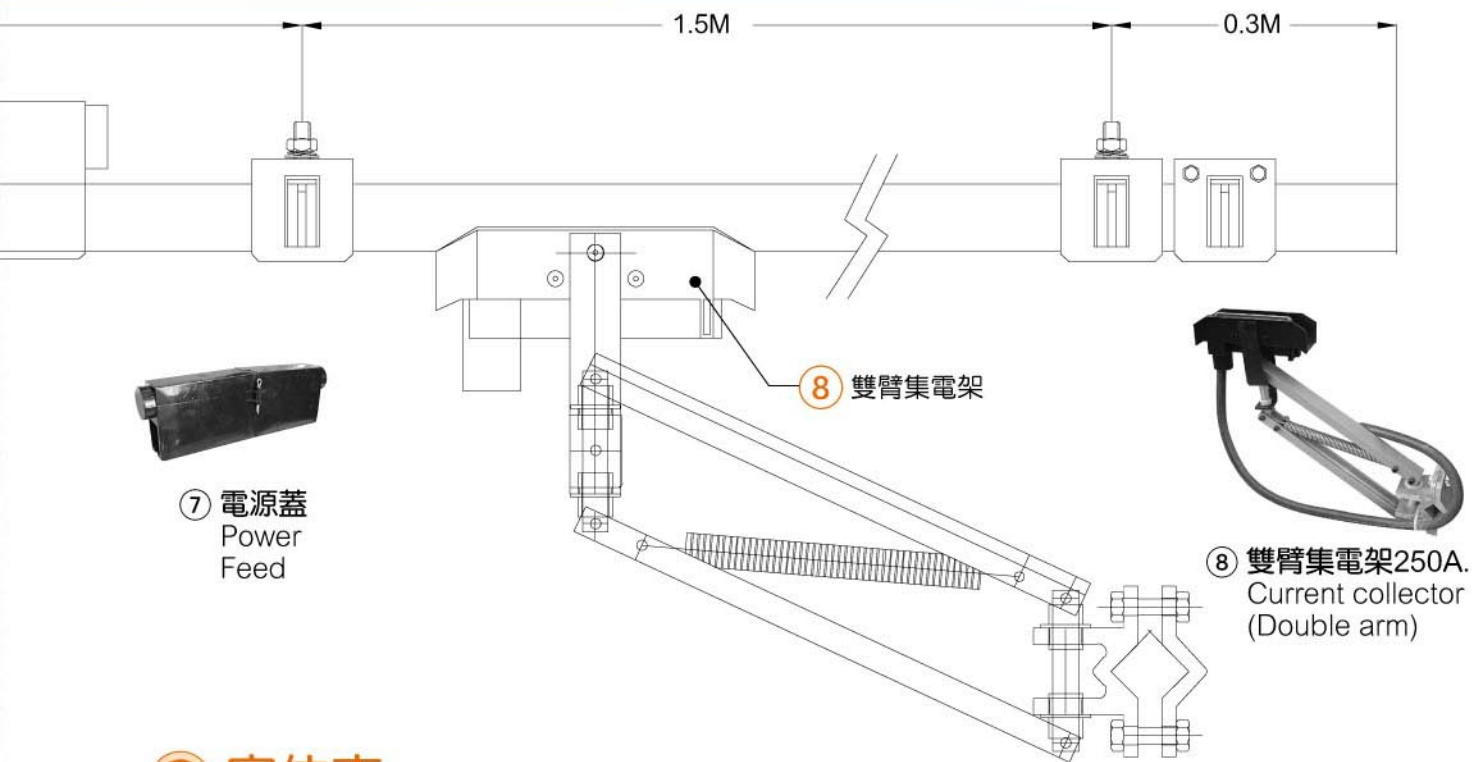
④ 接頭蓋 KY-AW08400



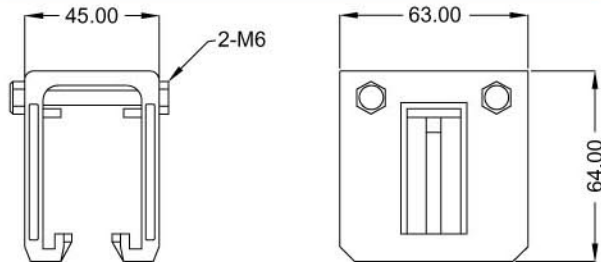
W型安全電軌供電系統



# Globe Star W型800A 零件圖



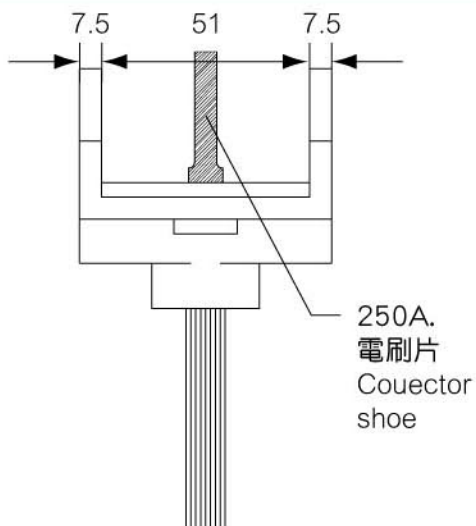
## ⑤ 定位夾 KY-AW08600



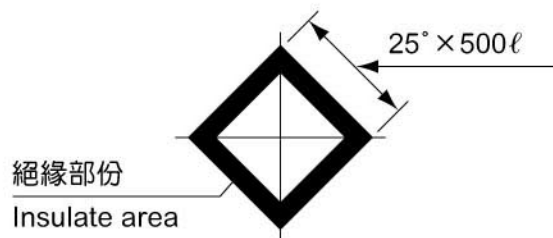
## ⑥ 電源接頭 (與接頭共用)

## ⑦ 電源蓋 (與接頭蓋共用)

## ⑧ 雙臂集電架 250A. KY-AW02725



## ⑨ 絕緣棒 AN01850 (500m/ml)

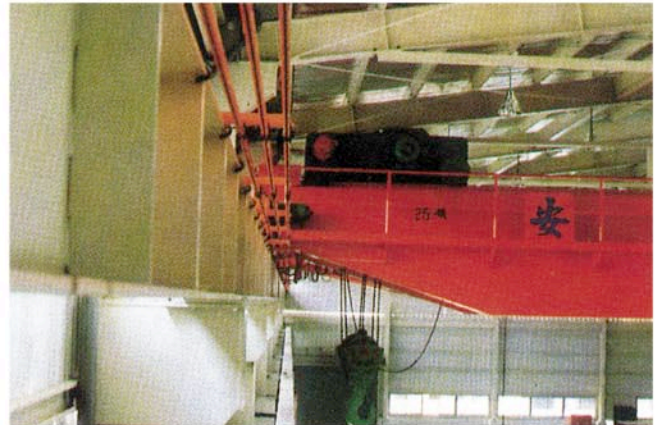




※本公司另備有各機種零組件及各項相關工程技術服務歡迎來電查詢  
(Welcom, contact with us about all parts or technical information, Thanks!) - 工程技術部 -



▲ W800A.



▲ W320A.



▲ W320A.



▲ W320A.



▲ W500A. / W320A. / W320A.



▲ W320A.



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※W型電軌工程實績用於中船、中鋼、台電、台機、台塑...等廠內設備。