

## **Federal Communication Commission Interference Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

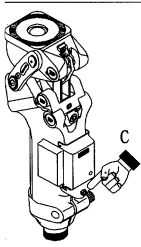
**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

### **IMPORTANT NOTE:**

#### **FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.



## Operation Manual

### 1. POWER

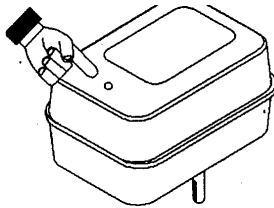
1.1 Uses two DC3.6V lithium batteries (one for knee body, one for remote controller)

- \* A fully charged battery, if unused for a minimum period of one month, will become flat.
- \* A new battery has to be charged before using.



1.2 To charge

- \* Lithium battery charger uses AC110~120V→60HZ, 6W or AC220~240V→50HZ, 6W
- \* The micro IC will indicate the "OFF" position, when the battery is almost flat, but the knee joint will still be operational.
- \* Charging will cease automatically when battery is fully charged.
- \* With the battery fully charged, the remote controller will indicate the "ON" position after the first movement of the knee joint.



1.3 Charge time

- \* One full charge time takes approximately 5 hours.
- \* The signal light will turn red when the battery is flat and it will turn off when the battery is fully charged or the battery is full.



1.4 The charger is especially for the lithium battery.

## 2. REMOTE CONTROLLER

### 2.1 Push button description:

- \* power (ON/OFF) switch.
- \* Auto ON/OFF.:
  - "ON "fully automatic
  - "OFF "non automatic
- \* Gait(+, -)"OFF " non automatic;  
the gait speed can be adjusted by pushing the + , - button.



- ### 2.2 The remote controller calculates the speed and category level after the first movement of the knee joint. If it is in the "ON" position, the IC will adjust automatically without any further



### 2.3 Conserve the battery:

- \* The remote controller will shut off when the knee is not in motion for over 3 min.
- \* The knee joint drive will shut off when the knee is not in motion for over 30 seconds.
- \* The effective distance for the remote controller is 5 meters °

- ### 2.4 The power consumption of the battery can be detected by the remote controller when the knee joint is moving.



<b>EUT</b>	Remote Controller
<b>MODEL NO.</b>	MPRC
<b>FCC ID</b>	YKK-MPRC01
<b>POWER SUPPLY</b>	5.0Vdc (adapter) 3.6Vdc (battery)
<b>MODULATION TYPE</b>	FSK
<b>RADIO TECHNOLOGY</b>	GFSK
<b>OPERATING FREQUENCY</b>	2440MHz
<b>NUMBER OF CHANNEL</b>	1
<b>DATA RATE</b>	500kbps
<b>ANTENNA TYPE</b>	PCB antenna with 0dBi gain
<b>ANTENNA CONNECTOR</b>	NA
<b>DATA CABLE</b>	NA
<b>I/O PORT</b>	NA
<b>ACCESSORY DEVICES</b>	Adapter, battery

<b>EUT</b>	Direct Controller
<b>MODEL NO.</b>	MPDC
<b>FCC ID</b>	YKK-MPDC01
<b>POWER SUPPLY</b>	5.0Vdc (adapter) 3.6Vdc (battery)
<b>MODULATION TYPE</b>	FSK
<b>RADIO TECHNOLOGY</b>	GFSK
<b>OPERATING FREQUENCY</b>	2440MHz
<b>NUMBER OF CHANNEL</b>	1
<b>DATA RATE</b>	500kbps
<b>ANTENNA TYPE</b>	PCB antenna with 0dBi gain
<b>ANTENNA CONNECTOR</b>	NA
<b>DATA CABLE</b>	NA
<b>I/O PORT</b>	NA
<b>ACCESSORY DEVICES</b>	Adapter, battery

## ADJUSTMENT

## 調整方法

### 3. Manual adjustment of the remote controller.

### 3 控制器手動微調:

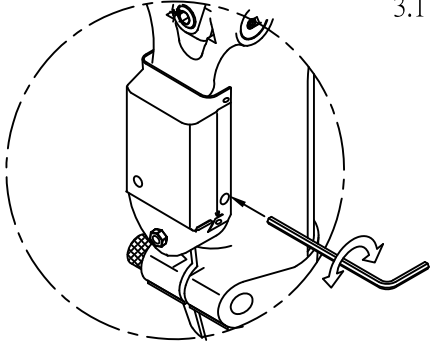
#### 3.1

3.1 When the remote controller is in the "AUTO" position, the flexion/extension resistance of the knee joint can be adjusted by using a 1mm Allen wrench to adjust the No.92 screw. For higher resistance, turn the screw clockwise, for lower resistance turn the screw counter-clockwise.

遙控器 [AUTO] 設定完成後,試走約5分鐘後,若對伸膝屈膝之阻力不合時,可使用1mm內六角板手調整92號螺絲,順時針旋轉阻力愈大,反時針旋轉阻力愈小(轉約1/10圈即可)。

\* Walk 10 min, to find out if the resistance is properly adjusted.

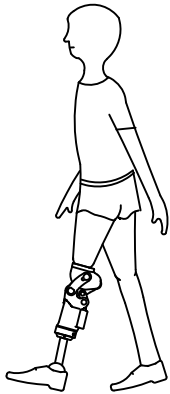
\*調整好後請反覆行走約10分鐘看伸屈阻力是否合適。



3.2 To lower energy consumption, the knee joint will be automatically turned off after 3 mins motionless. and the function of remote controller is not adjustable. It will turn on after the first movement and return to normal function.

#### 3.2

當腳約3分鐘沒走動電源會關閉以省電,此時遙控器也無法直接調整其功能,若要啟動只要走動一下,即恢復正常功能。

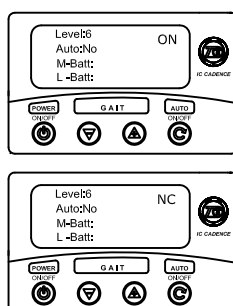
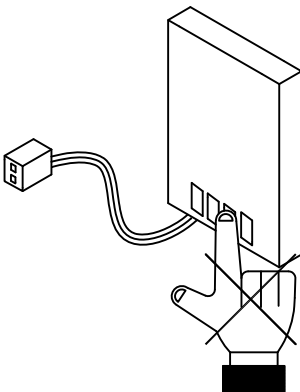


### 3.3 Warning:

When the power is shut off because of improper use, the knee joint should be kept motionless for 1 hour before using again.

### 注意事項:

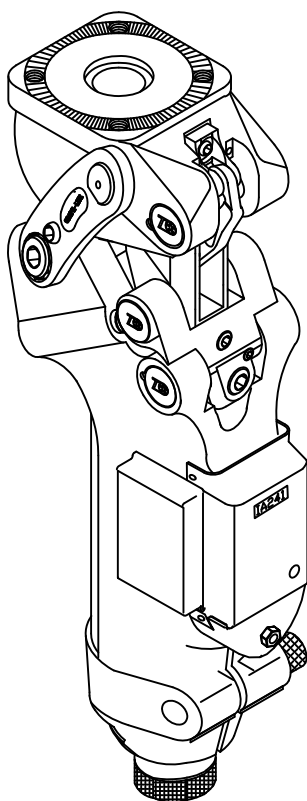
電池若使用不當,電線短路時,電池電源會關閉,要等約1小時才能恢復正常。





## 碳纖電子物能膝

電子物能膝結合鎂,鈦合金,輕碳纖結構與電子物能原理合成最新設計高科技結晶產品.依人體力學,按個人所需步伐速度及腳步,使電腦設定馬達轉動,控制閥門的關節活動性.在轉動部位皆裝置精密軸承,使膝關節彎曲15度時安全自鎖,避免斜坡地滑倒的危險.特殊單向閥門設計,由吸壓缸與貯壓缸自動調整氣閥,消除其活塞阻力的產生.高度的順暢及耐久性的電子與物能之雙重選擇設計,使患者行走舒適,動作敏捷,故障率低,遙控自如.



This unmatched intelligent knee is more than a brain. The "Auto-Pilot" knee instantly adjusts to all the patient's gait demands. Immediately upon fitting the "Auto-pilot" knee precisely adjusts the flexion, the extension and the speed of gait. It continually self-adjusts to the constant changes of gait. It is hard to believe, it can do it all on its own. Every prosthetist raves about the hydraulic-like smoothness of its true variable gait pneumatic cylinder. The "Auto-pilot" is a dream come true.

### RX INDICATIONS:

ACTIVE ABOVE KNEE AMPUTEE  
REQUIRING A FUNCTIONAL  
VARIABLE CADENCE PROSTHESIS.

### FEATURES:

- \* Intelligent IC chip
- \* No need to adjust instantly and constantly learns and adjusts to all patient's gait requirements
- \* Positive stance flexion stability
- \* 5-Bar stability, ultra-light graph-lite construction
- \* Quiet, smoothest pneumatic true variable cadence
- \* Fully programmable centreode (PC)
- \* Trouble free, low maintenance
- \* All sealed ball bearing axis
- \* Proven durability and dependability

適用於對步態有極高要求之活動強至極強的大腿截肢者.

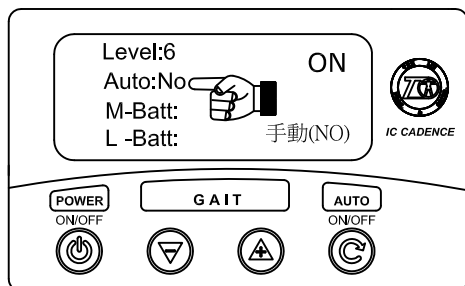
### 特性摘要:

- \*智慧型微電腦控制
- \*依使用者步態需求,微電腦持續性立即自動分析調整.
- \*平穩伸屈控制.
- \*五連桿設計,質輕堅固碳纖材料結構
- \*超靜音,氣壓式擺動設計
- \*可程式化微電腦輸入
- \*高品質,零故障,免維修
- \*精密軸承轉動,堅固耐用.



## ADJUSTMENT

## 使用與調整方法



### 2. REMOTE CONTROLLER:

#### 2.1 Description of the push buttons.:

\* power/ON/OFF

The remote controller will be turn off automatically when it is not used over 5 minute.

\*When the IC KNEE JOINT is flexioned 3 time ,the remote controller will show the "Level", "Yes", for auto movement. "No" ,for manual.

\*Gait can be adjusted when the remote controller is in the (No)manual position, there are 10 levels (0~10),the higher the number is the higher speed and resistance.

### 2.遙控器:

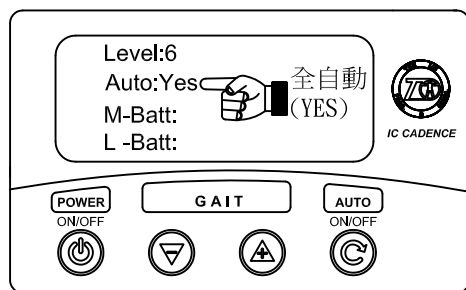
#### 2.1 按鍵說明:

\* POWER/ON/OFF電源開關

當遙控器超過5分鐘不使用時, 會自動關機.

\* 當膝關節行走使用時只要彎曲一次,遙控器會立即顯示段數 (Level),全自動(YES)或手動(NO). AUTO(ON/OFF):全自動(YES)與手動(NO)之切換.

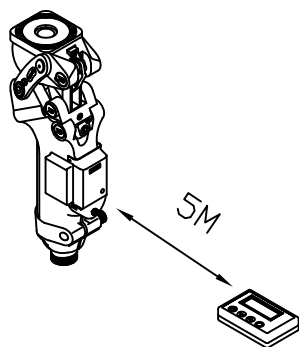
\* GAIT(+,-): AUTO設定成手動(NO)時,可在+, - 調整所需要的段數.段數分為10段,由0~10 ,可依個人需求做段數調整. 設定段數愈高壓縮係數愈高,行走速度愈快.



2.2 When the remote controller is setted in the (Yes) auto-position,the IC KNEE JOINT can adjust to the most suitable gait speed for the user.

### 2.2

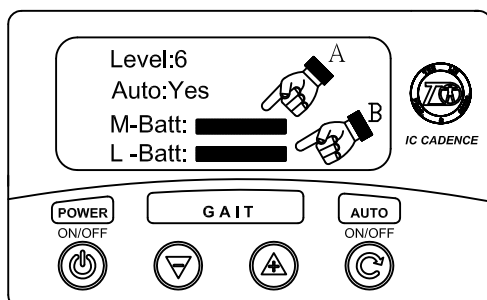
當AUTO設為YES時,微電腦會全依使用者行走狀況自動調整所需段數 所以不需要再做其他設定工作.



2.3 The effective distance for the remote controller is 3 meters. Make sure there is no obstacle or barrier between the remote controller and knee joint.

### 2.3

遙控器有效接收距離約3公尺, 但偶而會有死角,請稍為移動一下位置,即可恢復正常.在無障空間下有效接收距離約5公尺.



2.4 The power consumption of the battery can be detected by the remote controller when the knee joint is moving.

A M-Batt shows The power condition of the remote controller.

B L-Batt shows The power condition of the knee-joint.

### 2.4

膝關節,使用時可由遙控器的螢幕查知電池電力的存量.

圖A M-Batt 為遙控器電力存量.

圖B L-Batt 為膝蓋體電力存量.