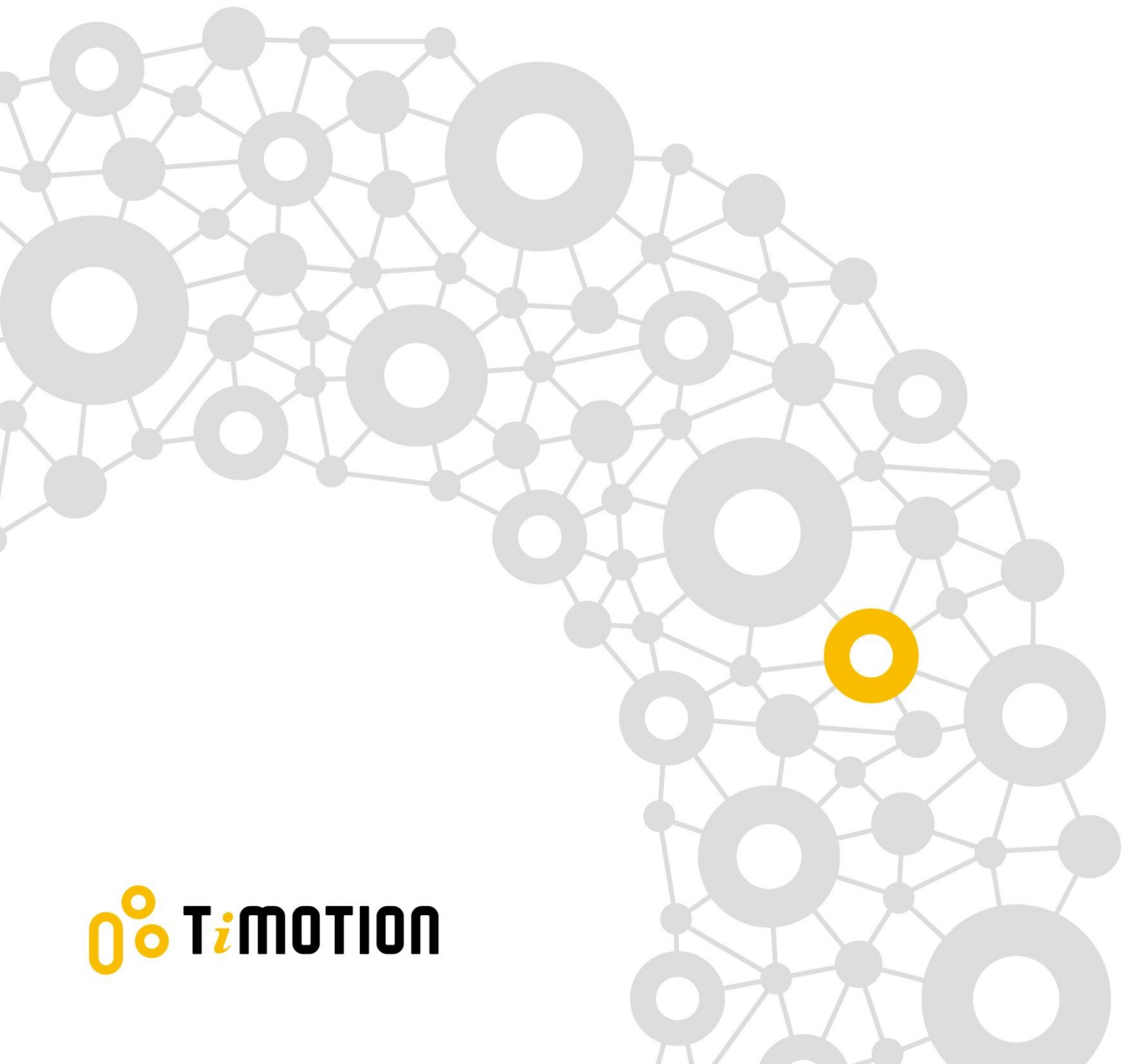


**VERSION 8**  
**USER MANUAL**

# Patient Lifting System with Control Box-TC12

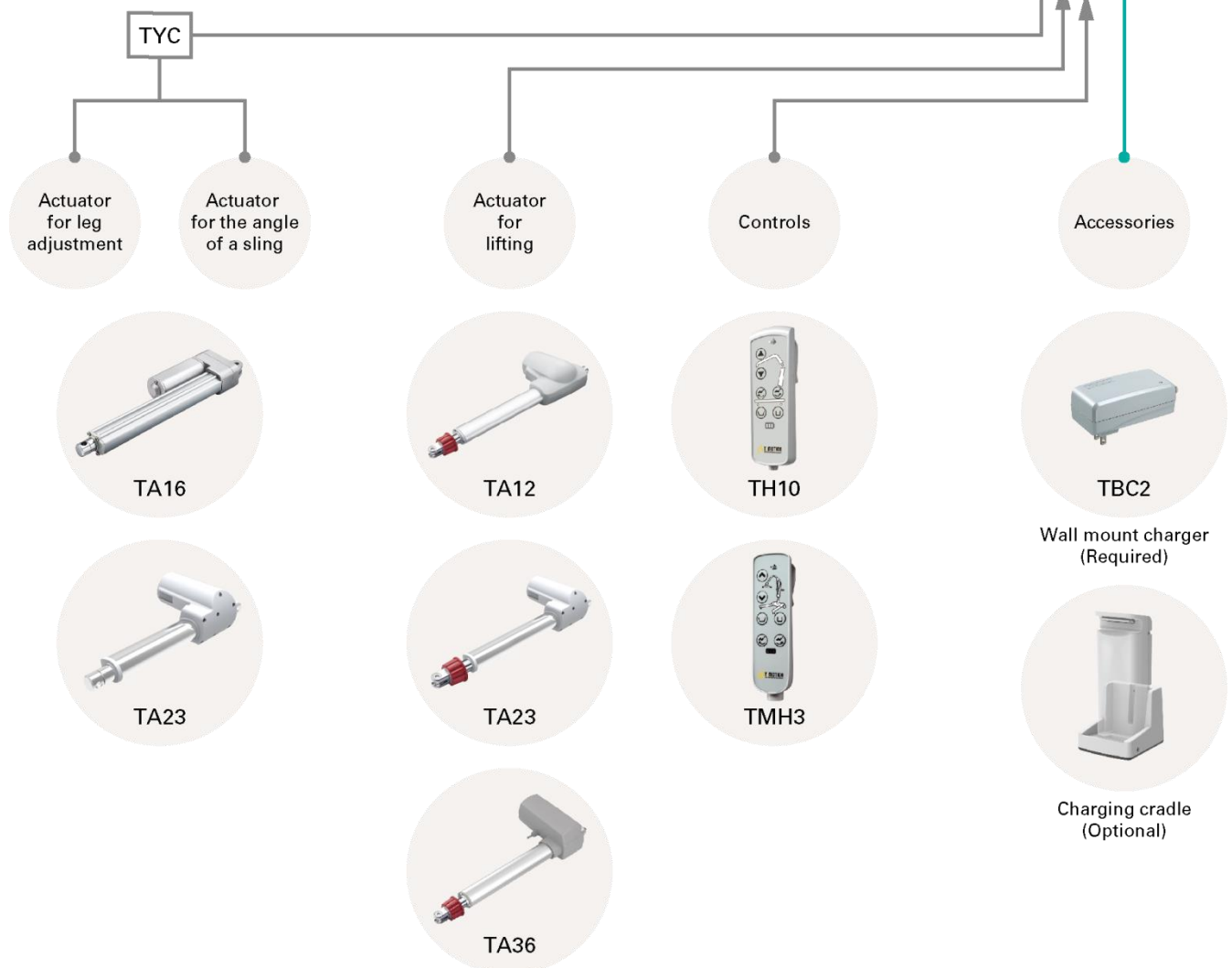


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# 1. Overview

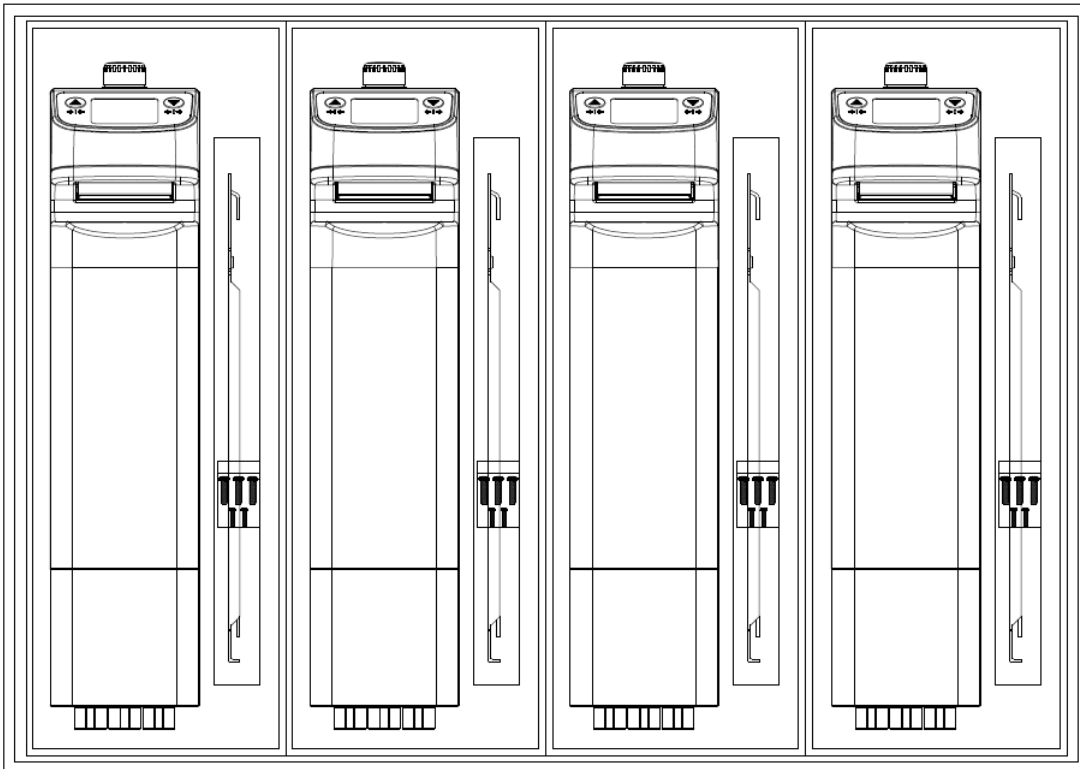
- Control Box: TC12
- Actuators for Lifting (aka M1): TA12, TA23 or TA36
- Actuators for Leg Adjustments (aka M2) / Sling Angle (aka M3): TA16 or TA23
- Control: TH10 and TH10 (tool control) or TMH3
- Accessory: Wall mount battery charger-TBC2 (required), charging cradle\* (optional)



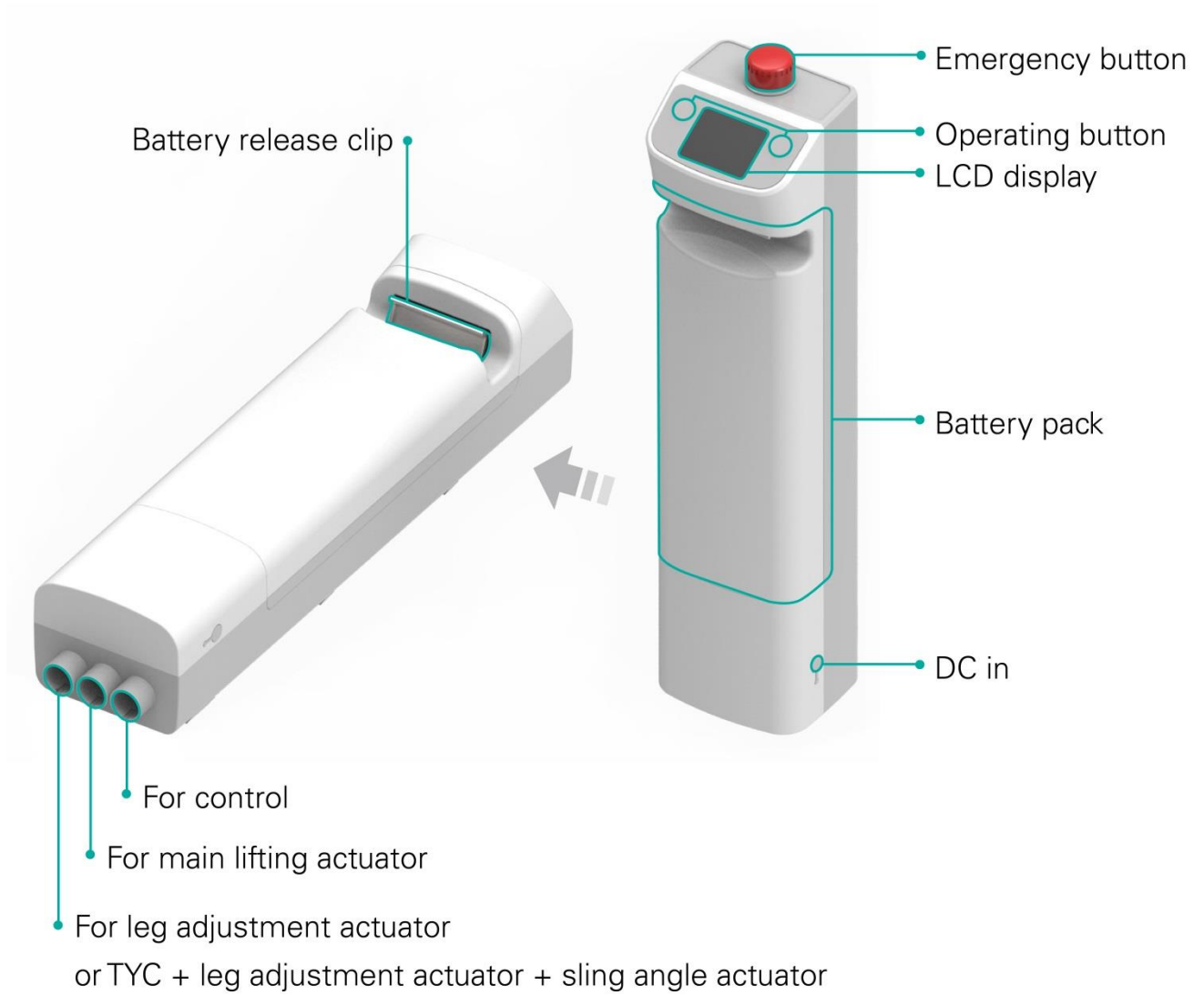
## 2. TC12 Control Box Introduction

### 2.1 Package Contents

The package contains one battery set and one package of parts which include bracket\*1pc, fixed screws for the bracket\*3pcs, and fixed screws for TC12 \*2pcs.

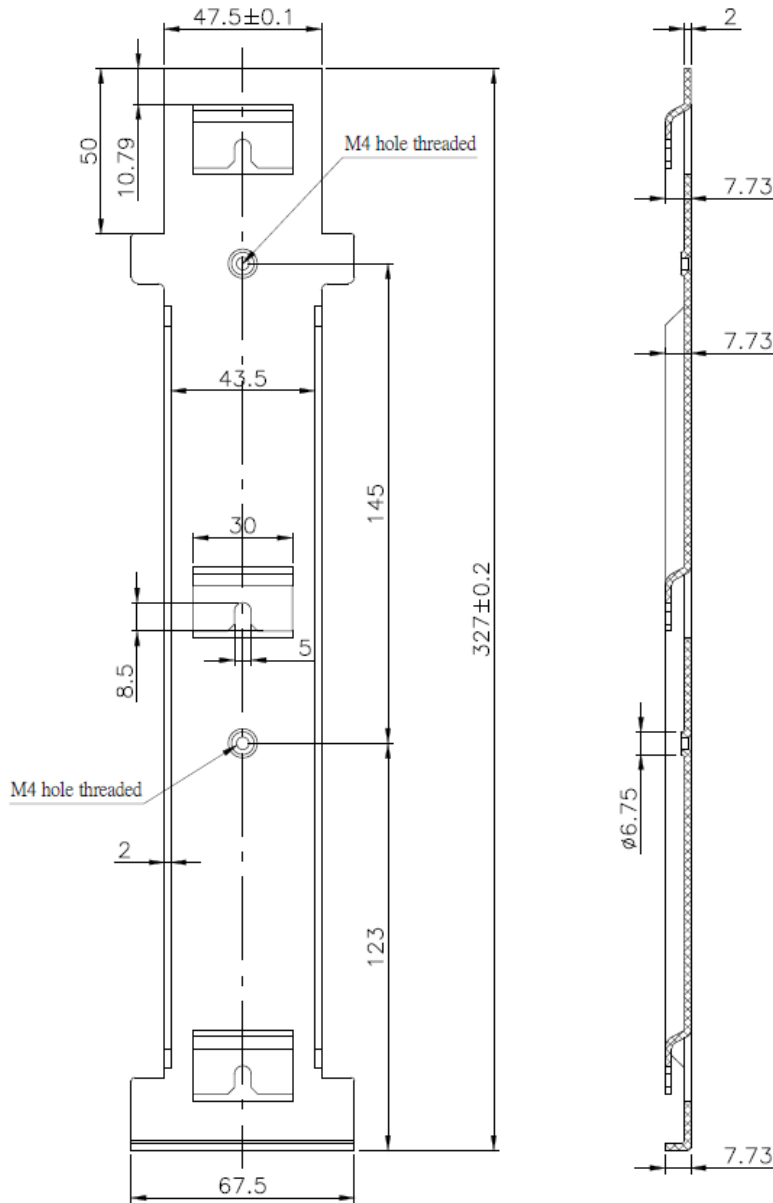


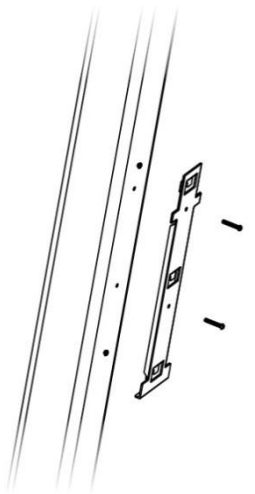
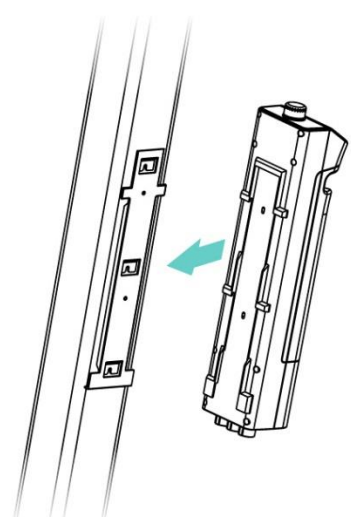
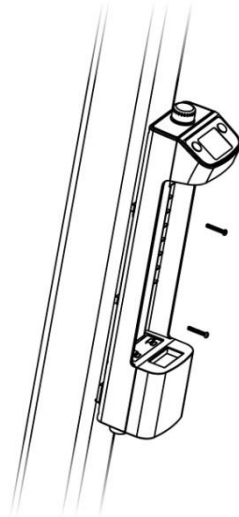
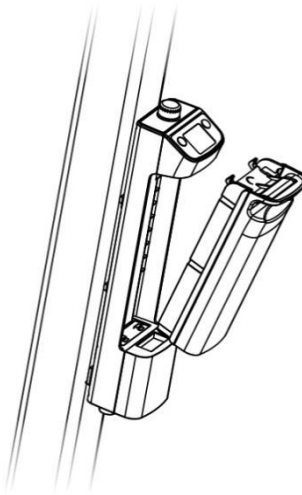
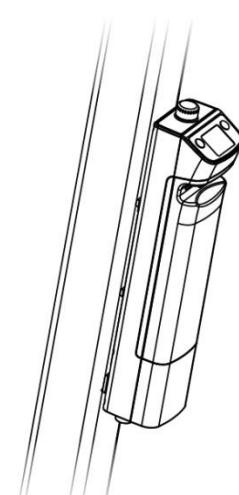
## 2.2 Appearance



## 2.3 Installation Instructions

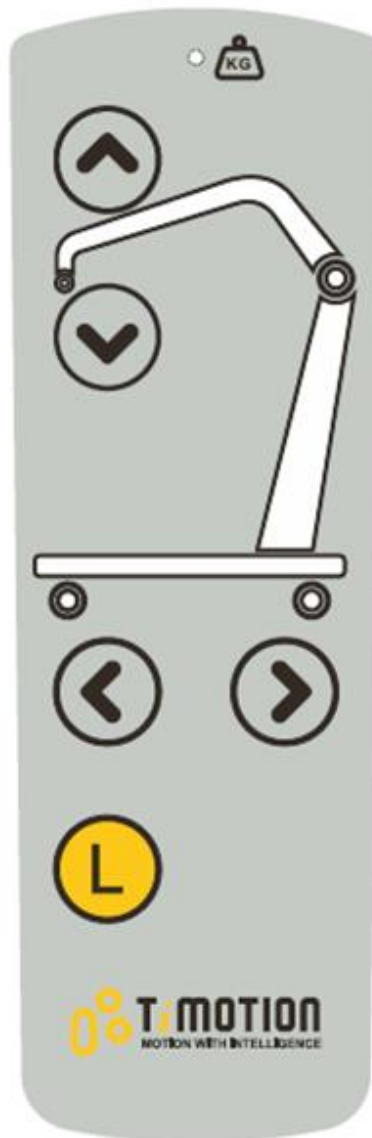
2D drawing for the TC12 fixed bracket.



<p>1. Install the bracket on the hoist frame</p>  A line drawing showing a rectangular metal bracket with two mounting holes being aligned with a vertical hoist frame. A small vertical line indicates the bracket's position.	<p>2. Install the TC12 on the bracket</p>  A line drawing showing the TC12 unit being moved towards the bracket. A light blue arrow points from the TC12 unit towards the bracket's mounting points.	<p>3. Make sure all fasteners are tightened properly</p>  A line drawing showing the TC12 unit fully mounted on the bracket. A small vertical line indicates the unit's position.
<p>4. Install the battery</p>  A line drawing showing a battery being inserted into the bottom compartment of the TC12 unit. The battery is shown at an angle, partially inserted.	<p>5. Installation is complete</p>  A line drawing showing the fully assembled TC12 unit, including the battery, mounted on the bracket. A small vertical line indicates the unit's position.	




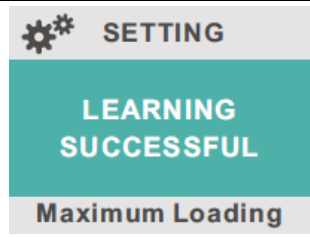
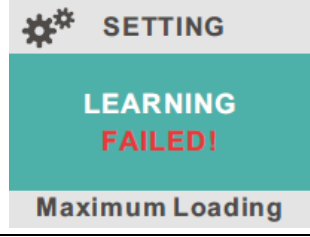
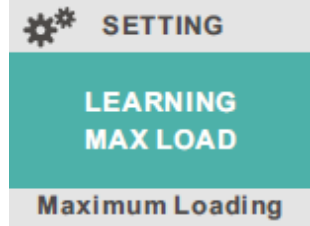
## 2.4 Getting started

Connect the tool control for the setting mode.







## 2.4.1 Maximum Load Setting


1. Following the standard usage, put on the maximum rated load	
2. Press  to start the learning mode.	
3. Then press  , and hold both buttons for more than 5 seconds to activate the automatic learning mode. Meanwhile, the primary motor for lifting will automatically, fully retract and extend.	
	
4. If the process is successful, the display will show:	
5. If the process is unsuccessful, the display will show:	
6. Restart the process if the setting is unsuccessful.	
<p>Note:</p> <p>If you already set up the maximum load, the display will show the following image:</p>	

## 2.4.2 Language Setting



We have six(6) standard options: English, Chinese, German, French, Japanese, and Spanish.


\*Language selectable: Available only in color screen version.

1. Press the  or  to select the language menu.

 **SETTING**  


**LANGUAGE**

2. Press the  or  buttons to select the desired language or return to the main menu.

 **SETTING**  


**En**

**Language**

 **SETTING**  


**De**

**Language**

 **SETTING**  


**中文**

**Language**

 **SETTING**  


**Fr**

**Language**

 **SETTING**  


**日本語**

**Language**



 **SETTING**  

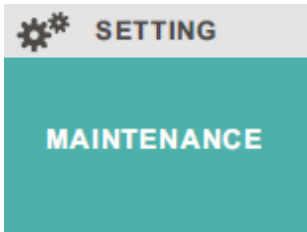


**Es**

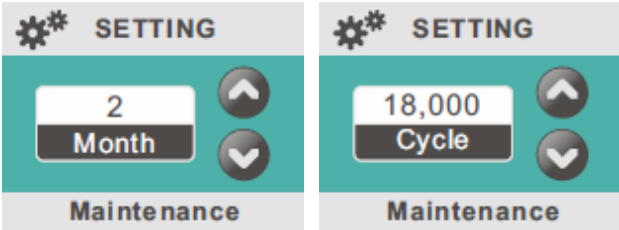


**Language**


3. After selecting the desired language, press and hold the  button for 5 seconds to complete the process.


### 2.4.3 Maintenance Cycle Setting

1. Press the  or  buttons to select the maintenance cycle menu.



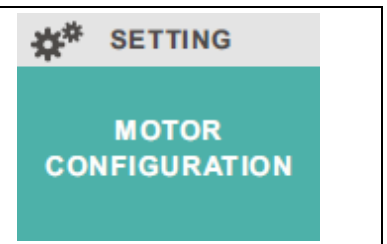


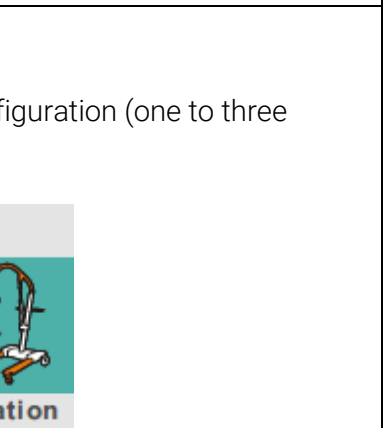


2. Press the  or  buttons to navigate to the maintenance cycle menu or return to the main menu.
3. Make your maintenance interval selection based on a time period or fixed number of cycles.


4. Press the  or  buttons to adjust the time period or cycles.



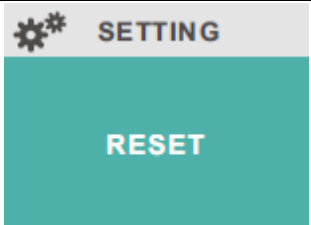


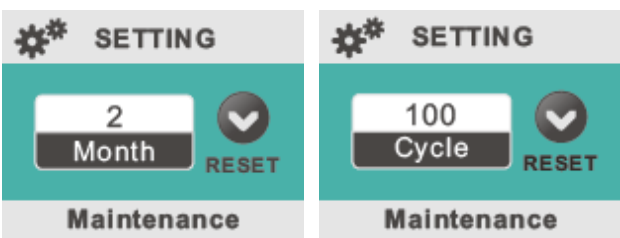
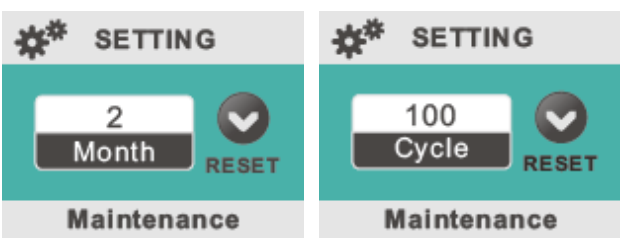

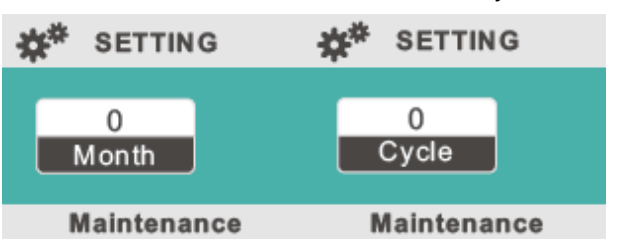
5. The time interval is adjustable in monthly increments and cycles are adjustable in increments of 1000.
6. If you don't want to set up the maintenance cycle, press the  button until the following symbol appears:





### 2.4.4 Motor Setting


<p>1. Press the  or  buttons to select the motor settings menu.</p>	
<p>2. Press the  or  buttons to choose the necessary configuration (one to three motors) or return to the main menu.</p>	
<p>3. After selecting the correct motor system, press and hold the  button for 5 seconds.</p>	



## 2.4.5 System Reset

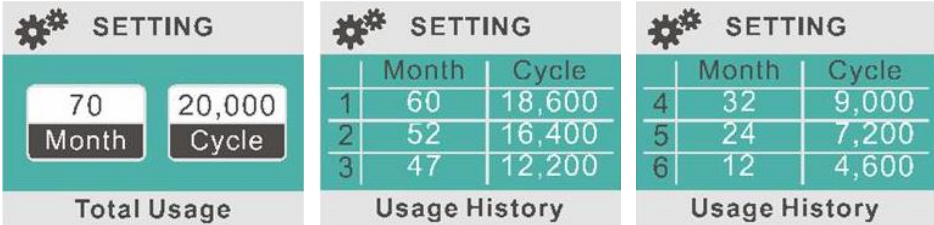
<p>1. Press the  or  to navigate to the reset menu.</p>	
<p>2. Press the  or  buttons to select <b>After Maintenance</b> or return to the main menu.</p>	
<p>3. "After Maintenance" System Reset</p>	
<p><i>Note: The maintenance interval settings are regulated by the number of cycles or months. An example is shown below.</i></p>	
	
<p>4. Resetting the maintenance interval to 0 Before the reset – the display will appear similar to the images shown below.</p>	
	
<p>5. To reset the maintenance interval, press and hold the  button for 5 seconds. When this process is completed, the values will be reset to zero.</p>	
<p>6. After the reset is complete, the screen will appear similar to the images shown below. Note how the default maintenance time or cycle will start from zero (0).</p>	
	

## 2.4.6 Usage History

1. Press the  or  buttons to navigate to the Usage History menu.



2. Press the  or  buttons to scroll through the Usage History information or return to the main menu.

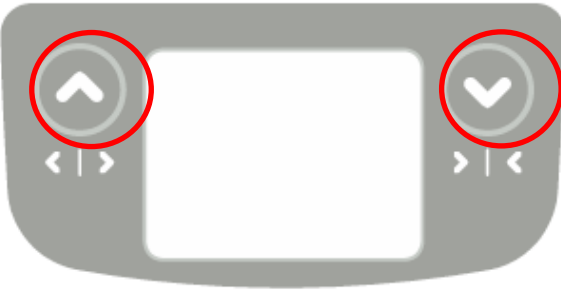


	Month	Cycle
1	60	18,600
2	52	16,400
3	47	12,200
4	32	9,000
5	24	7,200
6	12	4,600

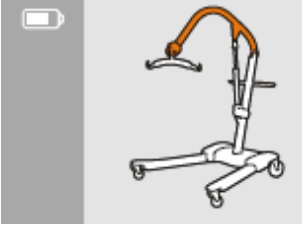
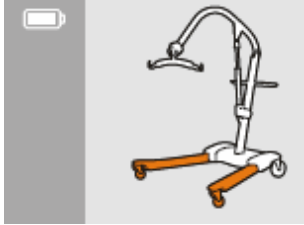


**Note:** The Usage History menu includes information regarding the total usage and the last five usages.

## 2.5 TC12 User Guide

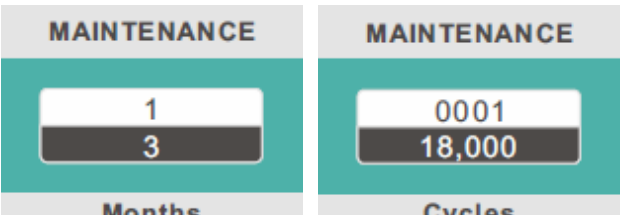
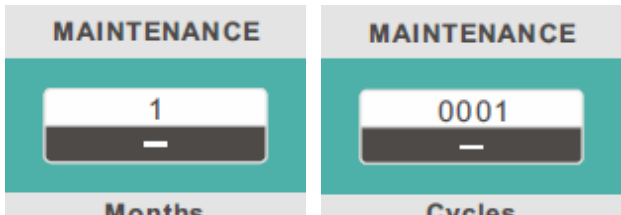
Below is an example of the TC12 with an LCD display:

<p><b>Left button:</b> Pressing the left button for more than 0.5 seconds will begin actuator extension.</p>		<p><b>Right button:</b> Pressing the right button for more than 0.5 seconds will begin actuator retraction.</p>
--	--	---

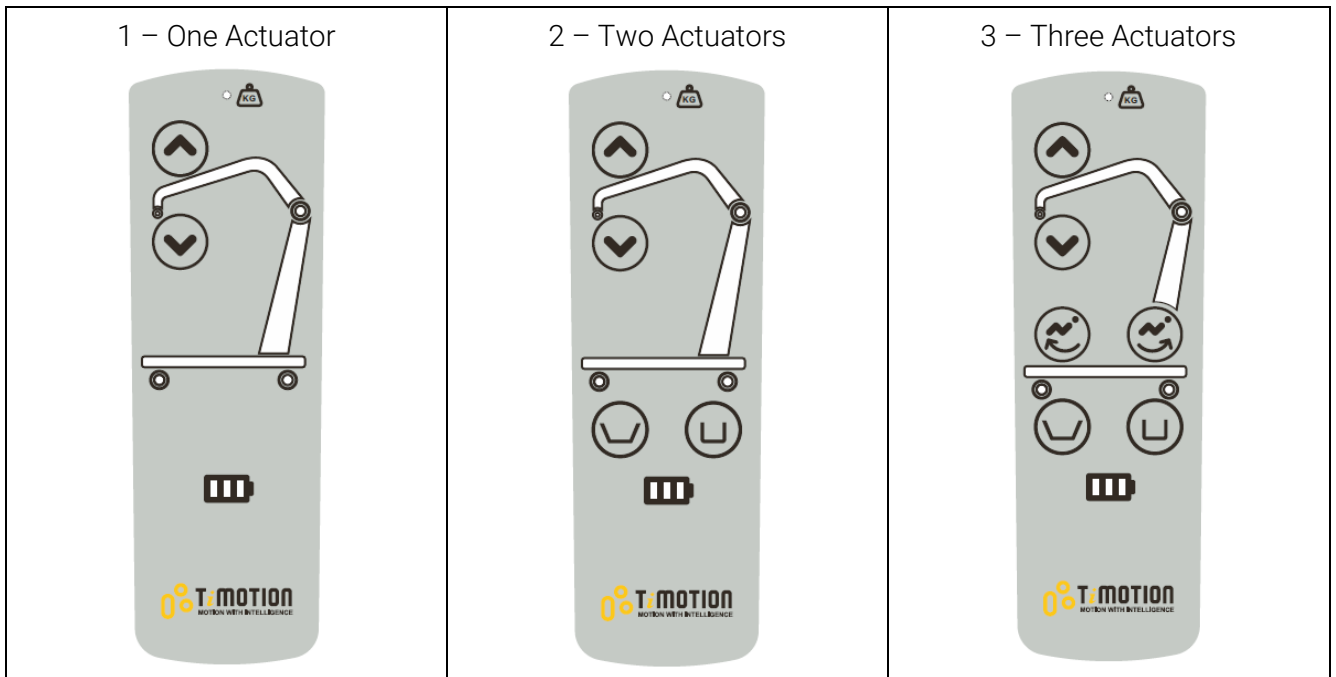
If you press either button for less than 0.5 seconds, you can access the following screens:

<ul style="list-style-type: none"> <li>● Raise or lower the hoist</li> </ul> 	<ul style="list-style-type: none"> <li>● Adjust the distance between the hoist legs</li> </ul> 
<ul style="list-style-type: none"> <li>● Adjust the sling angle</li> </ul> 	<ul style="list-style-type: none"> <li>● Remaining battery capacity</li> </ul> 

### 2.5.1 Maintenance information

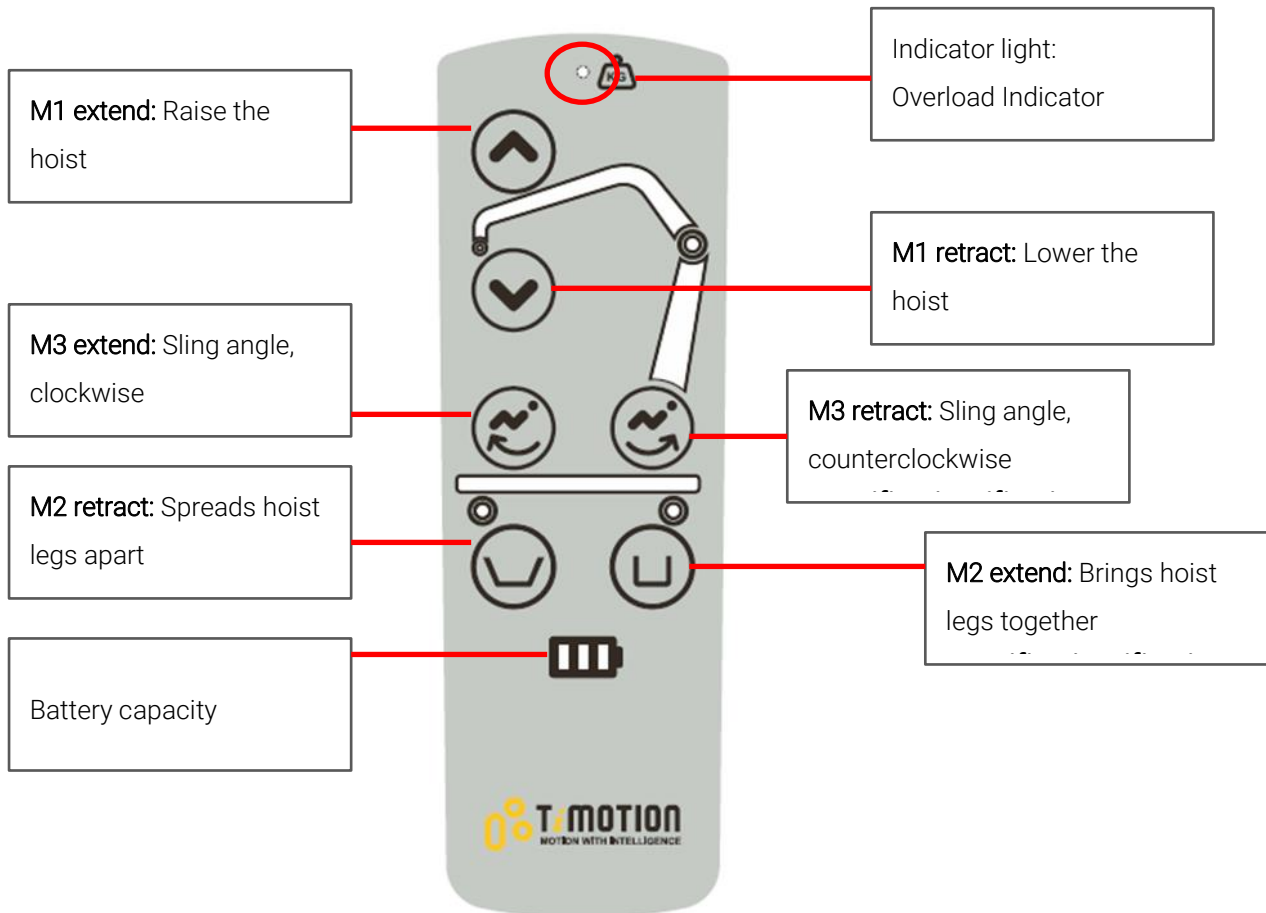
		<p>If you do not input a maintenance period, the message below will be shown on the display:</p> 	
---	--	---	--

### 2.5.2 Compatible Controls





### 2.5.3 Membrane of a Three Actuator Control







**Definitions:**

- M1 - Actuators for Lifting
- M2 - Actuators for Leg Adjustments
- M3 - Actuators for Sling Angle

### 3. Notifications

If the following notifications appear, please follow the procedures listed below to troubleshoot:

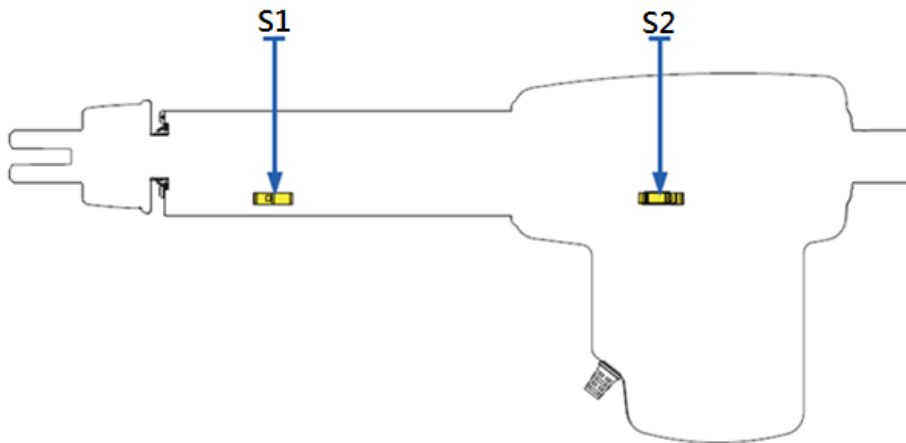
<p><b>Maintenance notification:</b> Check the state of the hoist and actuators</p>	<div style="background-color: #f00; color: white; text-align: center; padding: 2px;"><b>ATTENTION</b></div> <div style="text-align: center; padding: 10px;">  <p style="color: #f00; font-weight: bold; margin-top: 5px;">Maintenance Required</p> </div>
<p><b>Low battery capacity:</b> Recharge battery. If it does not hold a proper charge, the battery will need to be replaced.</p>	<div style="background-color: #f00; color: white; text-align: center; padding: 2px;"><b>ATTENTION</b></div> <div style="text-align: center; padding: 10px;">  <p style="color: #f00; font-weight: bold; margin-top: 5px;">Recharge Or Exchange</p> </div>
<p><b>Overload alarm:</b> Weight has exceeded the set maximum limit. Remove weight from the hoist and retry.</p>	<div style="background-color: #f00; color: white; text-align: center; padding: 2px;"><b>ATTENTION</b></div> <div style="text-align: center; padding: 10px;">  <p style="color: #f00; font-weight: bold; margin-top: 5px;">Overloaded</p> </div>
<p><b>Force interference:</b> When the primary motor retracts (hoist lowers), if any force interference occurs, an electrical push only mode will be activated and the hoist will stop working. Remove the interference immediately.</p>	<div style="background-color: #f00; color: white; text-align: center; padding: 2px;"><b>ATTENTION</b></div> <div style="text-align: center; padding: 10px;">  <p style="color: #f00; font-weight: bold; margin-top: 5px;">Please Check Hoist</p> </div>

**Force interference:**

There are two (2) limit switches designed specifically for the motors used within the patient lifting system.

**S1:** Upper Limit Switch

**S2:** Lower Limit Switch



## 4. History

### Descriptions of Version Updates:

1. April 23 2015: 1<sup>st</sup> version released.
2. Jun 09 2015: Cancel the function of the upper limit safety switch.
3. May 26 2015: Revise Maximum load setting step2 and step3.
4. August 19 2015: Add usage history feature.
5. December 15 2015: Revised the description in P17 "Indicator light"
6. March 23, 2016: Added remarks in Language setting
7. June 06, 2017: Changed the file name. This user manual aimed for TC12.
8. **October 2017: Revised the products and limit switches information.**