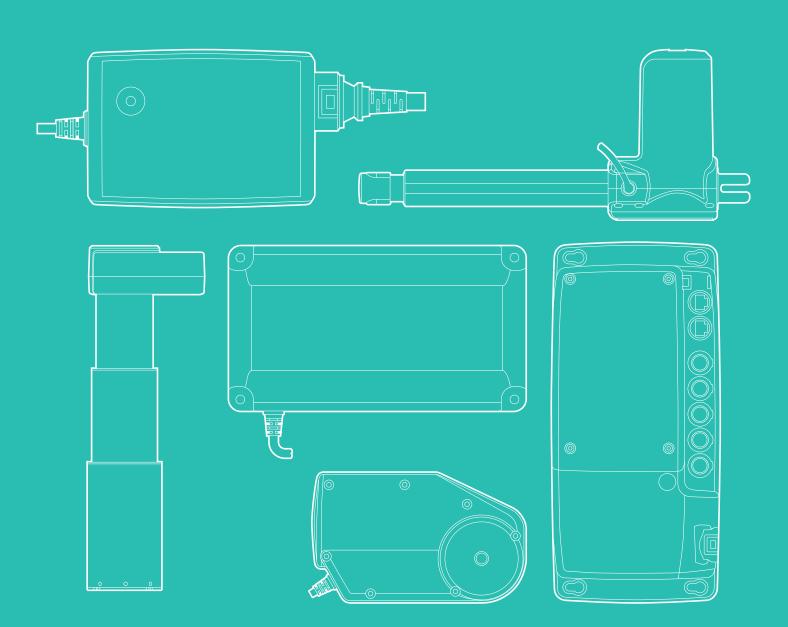


# TIMOTION CARES ABOUT WHAT YOU NEED

Choose TiMOTION, enjoy more Flexibility, Customized Products, and Tailor-Made Services





99%

of TiMOTION's customer application requirements can be solved by our experienced personnel providing highly customized solutions.

101%

TiMOTION guarantees complete customer satisfaction by providing a competitive packaged actuator solution coupled with a wide range of high quality products, global service networks and "on demand" R&D resources.

## Your BEST choice of actuation system for medical applications

With an aging population and increasing healthcare needs, the medical segment is seeking the best solutions that can improve the stay in a hospital for patients and staff. Our Care Motion product line offers a complete range of products that satisfies specific and demanding requirements of medical applications.

## High Customization with Complete Flexibility

Whether you are looking for a specific actuator with unique spec, having special software function, or even hoping to design special user interface on the handset, you have come to the right place. With dedicated R&D resources, we can design what you need upon individual requests. More importantly, the average software development time is within 7 working days (note 1) which will help your new products to be released to the market on time.



Note 1: the real development time is decided by the complexity of customer's projects.

## **Comply with Strict Medical Standards**

Most of our Care Motion products comply with strict medical standards. Not only do we provide high quality products but we also provide products supported by authentic certification. At the moment, our Care Motion products even have passed IEC60601-1 (3rd Safety Requirements for Medical Electrical Systems) certification.



### With Bus System Protocol

T-Bus is a communication protocol, specially designed for medical applications that allows communication between various accessories and our control system more seamlessly and smoothly. With our T-Bus protocol, the control system can be expanded and designed accordingly.



## Introducing Stable and Sustainable Wireless Technology

We focus on high level communication protocols using small, low-power digital radios based on an IEEE 802.15.4 standard for specific area networks. Compared with other wireless networking systems, such as WiFi or Bluetooth, IEEE 802.15.4 is safer and more efficient to transmit wireless signals. More importantly, it complies with medical safety standards.



#### Enhancing Power Efficiency, and Embracing Green Power

Most of our control systems are equipped with SMPS design to leverage power efficiency. Besides, we have strong concern and conscience for the worldwide environment we live in. That is why we are dedicated in designing our products with low power consumption. Furthermore, we have started to develop control boxes in Ergo Motion with low standby power consumption (less than 0.1W). Our electric solutions can operate in a reduced capacity as they are turned off.



## Bluetooth Control System with Mobile Devices

More and more mobile devices, either with an iOS or Android system, are becoming a trendy media that can work as a remote controller especially in a home care application. As an innovative solution provider, TiMOTION created this system to offer more alternatives when it comes to home care application.



## Wireless Technology Implementation for Home Care Applications

When it comes to home care applications, wireless technology is a crucial factor for seamless digital communication which can help caregivers to control the medical devices remotely (within effective distance). The handset-TH30 is designed with a radio frequency based (RF) system, avoiding cable interference, and TRF2 serves as a RF receiver.



## Multiple Choices of Nursing Panels

TiMOTION has several models with various sizes for customers to choose from. From compact sizes to advanced models with LCD monitor, we have a full range of nursing panels that can help caregivers manage the medical equipment more easily. All the nursing panels can have customized UI upon customer's requirements.



## A Nurse Call System for Home Care Applications

By simply pressing a button of the TMH1, a patient can call on caregivers for prompt assistance whenever he or she needs help. The TNC is served as an emergency message receiver; besides, it can activate an alarm when the battery goes flat or the signal cannot be reached out of effective distance.



## Working with 3<sup>rd</sup> Party Solutions, The Weight Measuring System

The weight measuring system solution is custom designed for hospital beds and long term care beds. Our nursing panel-TNP5 and load measuring devices-load cells\* provide accurate load measurement with the patient in the bed.

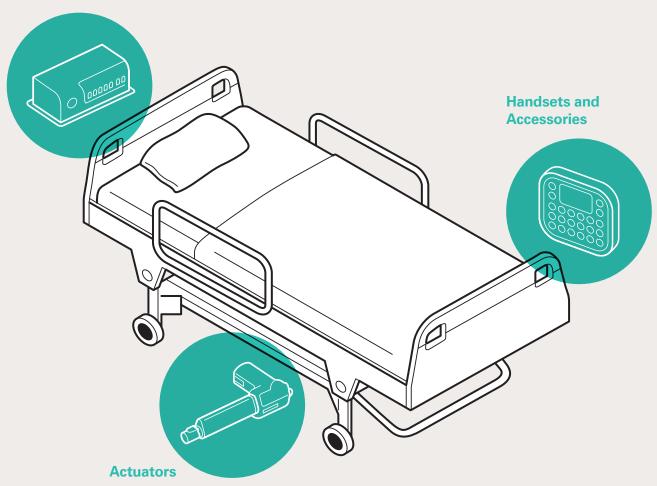
Note: Customers need to purchase load cells from the 3rd party. If you need a total solution, please contact with TiMOTION for further details.



## More than a single product, we provide you with a total solution

We understand most customers are confronted with critical challenges ahead and hope to obtain one single solution that can be perfectly customized upon their requests. This is why you need TiMOTION; we make your dreams into reality.

#### **Control Systems**



## Manual Crank Attachment for Unstable Electricity Source

Applied to where the electricity source is unreliable.

#### **Out of Bed Detection**

Automatically activate an alarm and keep the caregivers informed when the patient leaves the bed.

#### Manual Release Under Unstable Power Condition

Able to release the mechanism during emergency situations or when the power has been cut off.

#### Flexible QR (Quick Release) Options

Cable or handle type.

#### **Customized Handsets**

- Some with LCD display (UI can be customized)
- With back up light to enhance safety
- Flexible key options
- Caster alarm

## TA1 SERIES

#### **Maximum load**

10,000N in push

#### **Maximum load**

4,000N in pull

#### Maximum speed at no load

38.0mm/s

#### Maximum speed at full load

23.2mm/s

#### Minimum installation dimension

stroke+163mm

#### **Protection class**

up to IP66

#### Certificate

CB, EMC, RoHS,

ES and IEC 60601-1 compliant



#### **Load and Speed**

| CODE     | Rated Load    |        | Self Locking | Typical                      | Typical Speed            |                             |
|----------|---------------|--------|--------------|------------------------------|--------------------------|-----------------------------|
|          | PUSH N        | PULL N | N (PUSH)     | Current at<br>Rated Load (A) | No Load<br>(32V DC) mm/s | Rated Load<br>(24V DC) mm/s |
| Motor Sp | eed (2600RPM) |        |              |                              |                          |                             |
| С        | 5000          | 4000   | 2500         | 3.5                          | 7.6                      | 3.9                         |
| D        | 6000          | 4000   | 4000         | 3.5                          | 5.5                      | 2.9                         |
| F        | 2500          | 2500   | 1000         | 3.2                          | 15.9                     | 8.3                         |
| G        | 2000          | 2000   | 1000         | 3.2                          | 19.8                     | 11.1                        |
| Н        | 1000          | 1000   | 500          | 2.1                          | 29.3                     | 19.1                        |
| J        | 3500          | 3500   | 3500         | 3.6                          | 11.1                     | 5.5                         |
| K        | 8000          | 4000   | 6000         | 4.0                          | 5.0                      | 2.5                         |
| Motor Sp | eed (3400RPM) |        |              |                              |                          |                             |
| L        | 6000          | 4000   | 4000         | 4.2                          | 7.0                      | 3.9                         |
| Ν        | 2500          | 2500   | 1000         | 4.1                          | 20.2                     | 11.1                        |
| 0        | 2000          | 2000   | 1000         | 4.0                          | 25.3                     | 14.9                        |
| Р        | 1000          | 1000   | 500          | 3.0                          | 38.0                     | 23.2                        |
| Q        | 3500          | 3500   | 3500         | 4.6                          | 14.3                     | 7.6                         |
| R        | 8000          | 4000   | 6000         | 5.0                          | 6.7                      | 3.3                         |
| Т        | 5000          | 4000   | 2500         | 4.2                          | 10.1                     | 5.1                         |
| Motor Sp | eed (3800RPM) |        |              |                              |                          |                             |
| Χ        | 6000          | 4000   | 4000         | 4.4                          | 8.3                      | 5.2                         |
| Υ        | 8000          | 4000   | 6000         | 5.3                          | 7.7                      | 4.4                         |
| В        | 10000         | 4000   | 10000        | 5.3                          | 5.5                      | 2.9                         |

- 1 The above are the speed and current figures under pushing condition.
- 2 Speed would be the same if with 12V motor, but with double current consumption comparing 24V motor.
- 3 If choosing #B, it must use iron inner tube and front attachment #5, and add additional 5mm reteacted length.
- **4** The self locking force above needs to work with TiMOTION control system.

## TA7 SERIES

#### **Maximum load**

10,000N in push

#### **Maximum load**

4,000N in pull

Maximum speed at no load

38.0mm/s

Maximum speed at full load

23.2mm/s

Minimum installation dimension

stroke+171mm

**Protection class** 

up to IP66

Certificate

CE, RoHS,

ES and IEC 60601-1 compliant



#### **Load and Speed**

| CODE     | Rated Load<br>PUSH N | PULL N | Self Locking<br>N (PUSH) | Typical<br>Current at<br>Rated Load (A) | Typical Speed<br>No Load<br>(32V DC) mm/s | Rated Load<br>(24V DC) mm/s |
|----------|----------------------|--------|--------------------------|---|---|-----------------------------|
| Motor Sp | eed (2600RPM)        |        |                          |   |   |                             |
| С        | 5000                 | 4000   | 2500                     | 3.5                                     | 7.6                                       | 3.9                         |
| D        | 6000                 | 4000   | 4000                     | 3.5                                     | 5.5                                       | 2.9                         |
| F        | 2500                 | 2500   | 1000                     | 3.2                                     | 15.9                                      | 8.3                         |
| G        | 2000                 | 2000   | 1000                     | 3.2                                     | 19.8                                      | 11.1                        |
| Н        | 1000                 | 1000   | 500                      | 2.1                                     | 29.3                                      | 19.1                        |
| J        | 3500                 | 3500   | 3500                     | 3.6                                     | 11.1                                      | 5.5                         |
| K        | 8000                 | 4000   | 6000                     | 4.0                                     | 5.0                                       | 2.5                         |
| Motor Sp | eed (3400RPM)        |        |                          |   |   |                             |
| L        | 6000                 | 4000   | 4000                     | 4.2                                     | 7.0                                       | 3.9                         |
| Ν        | 2500                 | 2500   | 1000                     | 4.1                                     | 20.2                                      | 11.1                        |
| 0        | 2000                 | 2000   | 1000                     | 4.0                                     | 25.3                                      | 14.9                        |
| Р        | 1000                 | 1000   | 500                      | 3.0                                     | 38.0                                      | 23.2                        |
| Q        | 3500                 | 3500   | 3500                     | 4.6                                     | 14.3                                      | 7.6                         |
| R        | 8000                 | 4000   | 6000                     | 5.0                                     | 6.7                                       | 3.3                         |
| Т        | 5000                 | 4000   | 2500                     | 4.2                                     | 10.1                                      | 5.1                         |
| Motor Sp | eed (3800RPM)        |        |                          |   |   |                             |
| Χ        | 6000                 | 4000   | 4000                     | 4.4                                     | 8.3                                       | 5.2                         |
| Υ        | 8000                 | 4000   | 6000                     | 5.3                                     | 7.7                                       | 4.4                         |
| В        | 10000                | 4000   | 10000                    | 5.3                                     | 5.5                                       | 2.9                         |

- 1 The above are the speed and current figures under pushing condition.
- 2 Speed would be the same if with 12V motor, but with double current consumption comparing 24V motor.
- 3 The self locking force above needs to work with TiMOTION control system.

## TA10 SERIES

#### **Maximum load**

6,000N in push

#### **Maximum load**

4,000N in pull

#### Maximum speed at no load

14.3mm/s

#### Maximum speed at full load

7.6mm/s

#### Minimum installation dimension

stroke+188mm

#### **Protection class**

up to IP66

With manual crank function



#### **Load and Speed**

| CODE      | Rated Load<br>PUSH N | PULL N | Self Locking<br>N (PUSH) | Typical<br>Current at<br>Rated Load (A) | Typical Speed<br>No Load<br>(32V DC) mm/s | Rated Load<br>(24V DC) mm/s |
|-----------|----------------------|--------|--------------------------|---|---|-----------------------------|
| Motor spe | eed (2600RPM)        |        |                          |   |   |                             |
| D         | 6000                 | 4000   | 4000                     | 3.5                                     | 5.5                                       | 2.9                         |
| J         | 3500                 | 3500   | 3500                     | 3.6                                     | 11.1                                      | 5.5                         |
| Motor spe | eed (3400RPM)        |        |                          |   |   |                             |
| L         | 6000                 | 4000   | 4000                     | 4.2                                     | 7.0                                       | 3.9                         |
| Q         | 3500                 | 3500   | 3500                     | 4.6                                     | 14.3                                      | 7.6                         |
| Motor spe | eed (3800RPM)        |        |                          |   |   |                             |
| Χ         | 6000                 | 4000   | 4000                     | 4.4                                     | 8.3                                       | 5.2                         |

- **1** The above are the speed and current figures under pushing condition.
- 2 Speed would be the same if with 12V motor, but with double current consumption comparing 24V motor.

## TA12 SERIES

#### **Maximum load**

12,000N in push

#### **Maximum load**

6,000N in pull

#### Maximum speed at no load

45.3mm/s

#### Maximum speed at full load

25.5mm/s

#### Minimum installation dimension

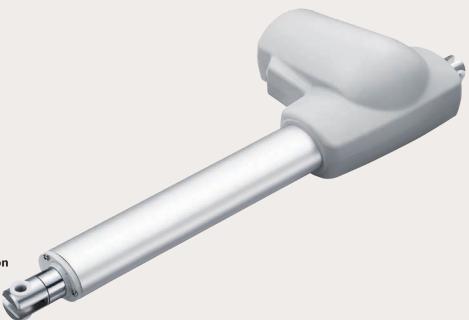
stroke+210mm

#### **Protection class**

up to IP66

#### Certificate

RoHS and IEC 60601-1 compliant



#### **Load and Speed**

| CODE     | Rated Load<br>PUSH N | PULL N | Self Locking<br>N (PUSH) | Typical<br>Current at<br>Rated Load (A) | Typical Speed<br>No Load<br>(32V DC) mm/s | Rated Load<br>(24V DC) mm/s |
|----------|----------------------|--------|--------------------------|---|---|-----------------------------|
| Motor Sp | eed (3000RPM)        |        |                          |   |   |                             |
| G        | 10000                | 6000   | 10000                    | 10.0                                    | 11.0                                      | 5.3                         |
| Н        | 12000                | 6000   | 12000                    | 7.5                                     | 5.5                                       | 3.1                         |
| J        | 7000                 | 6000   | 7000                     | 6.5                                     | 11.3                                      | 6.4                         |
| K        | 4000                 | 4000   | 4000                     | 6.5                                     | 22.7                                      | 12.7                        |
| L        | 3000                 | 3000   | 3000                     | 6.5                                     | 34.0                                      | 19.1                        |
| Μ        | 2000                 | 2000   | 2000                     | 6.5                                     | 45.3                                      | 25.5                        |

- 1 The above are the speed and current figures under pushing condition.
- 2 Speed would be the same if with 12V motor, but with double current consumption.

## TA13 SERIES

#### **Maximum load**

8,000N in push

#### **Maximum load**

4,000N in pull

#### Maximum speed at no load

10.7mm/s

#### Maximum speed at full load

6.0mm/s

#### Minimum installation dimension

stroke+185mm

#### Certificate

ES and IEC 60601-1 compliant

Suitable for a dentist chair application



#### **Load and Speed**

| CODE     | Rated Load<br>PUSH N | PULL N | Self Locking<br>N (PUSH) | Typical<br>Current at<br>Rated Load (A) | Typical Speed<br>No Load<br>(32V DC) mm/s | Rated Load<br>(24V DC) mm/s |
|----------|----------------------|--------|--------------------------|---|---|-----------------------------|
| Motor Sp | eed (3000RPM)        |        |                          |   |   |                             |
| Т        | 8000                 | 4000   | 8000                     | 6.0                                     | 8.4                                       | 4.4                         |
| Motor Sp | eed (4000RPM)        |        |                          |   |   |                             |
| С        | 8000                 | 4000   | 8000                     | 7.5                                     | 10.7                                      | 6.0                         |

#### Note

**1** The above are the speed and current figures under pushing condition.

## TA15 SERIES

#### **Maximum load**

8,000N in push

#### **Maximum load**

4,000N in push

#### Maximum speed at no load

8.4mm/s

#### Maximum speed at full load

4.4mm/s

#### Minimum installation dimension

stroke+210mm

For bariatric bed application especially



| Load and Speed |               |                            |              |                              |                          |                             |  |  |  |
|----------------|---------------|----------------------------|--------------|------------------------------|--------------------------|-----------------------------|--|--|--|
| CODE           | Rated Load    |                            | Self Locking | Typical                      | Typical Speed            |                             |  |  |  |
|                | PUSH N        | PULL N N (PUSH) Current at |              | Current at<br>Rated Load (A) | No Load<br>(32V DC) mm/s | Rated Load<br>(24V DC) mm/s |  |  |  |
| Motor Sp       | eed (3000RPM) |                            |              |                              |                          |                             |  |  |  |
| T              | 8000          | 4000                       | 8000         | 6.0                          | 8.4                      | 4.4                         |  |  |  |

#### Note

**1** The above are the speed and current figures under pushing condition.

## TA16 SERIES

#### **Maximum load**

2,500N in push

#### Maximum speed at no load

19.2mm/s

#### Maximum speed at full load

10.7mm/s

#### Minimum installation dimension

stroke+112mm (without output signals)

#### **Protection class**

up to IP66

#### Certificate

ES and IEC 60601-1 compliant

Low-noise, small size for easy installation



#### **Load and Speed**

| CODE     | Rated Load            | Typical                      | Typical Speed            |                             |  |  |  |  |
|----------|-----------------------|------------------------------|--------------------------|-----------------------------|--|--|--|--|
|          | PUSH N                | Current at<br>Rated Load (A) | No Load<br>(32V DC) mm/s | Rated Load<br>(24V DC) mm/s |  |  |  |  |
| Motor Sp | Motor Speed (3800RPM) |                              |                          |                             |  |  |  |  |
| А        | 2500                  | 2.8                          | 6.0                      | 3.3                         |  |  |  |  |
| В        | 2000                  | 3.0                          | 9.6                      | 5.1                         |  |  |  |  |
| С        | 1500                  | 2.8                          | 13.5                     | 7.5                         |  |  |  |  |
| D        | 1000                  | 2.8                          | 19.2                     | 10.7                        |  |  |  |  |

## TA17 SERIES

#### **Maximum load**

2,000N in push and pull

Maximum speed at no load

25.0mm/s

Maximum speed at full load

15.5mm/s

Minimum installation dimension

stroke+217mm

**Protection class** 

up to IP66

An in-line actuator design with compact installation dimension



#### **Load and Speed**

| CODE       | Rated Load            |        | Self Locking | Typical                      | Typical Speed            |                             |  |  |  |
|------------|-----------------------|--------|--------------|------------------------------|--------------------------|-----------------------------|--|--|--|
|            | PUSH N                | PULL N | N (PUSH)     | Current at<br>Rated Load (A) | No Load<br>(32V DC) mm/s | Rated Load<br>(24V DC) mm/s |  |  |  |
| Motor Spee | Motor Speed (6000RPM) |        |              |                              |                          |                             |  |  |  |
| В          | 2000                  | 2000   | 2000         | 2.0                          | 8.4                      | 4.5                         |  |  |  |
| С          | 1500                  | 1500   | 1000         | 2.0                          | 11.5                     | 6.5                         |  |  |  |
| D          | 1000                  | 1000   | 500          | 2.0                          | 16.0                     | 9.0                         |  |  |  |
| Е          | 500                   | 500    | 500          | 2.0                          | 25.0                     | 15.5                        |  |  |  |

- 1 The above are the speed and current figures under pushing condition.
- 2 Speed would be the same if with 12V motor, but with double current consumption comparing 24V motor.
- 3 The self locking force above needs to work with TiMOTION control system.

## TA18 SERIES

#### **Maximum load**

4,500N in push

#### **Maximum load**

3,000N in pull

Maximum speed at no load

38.3mm/s

Maximum speed at full load

24.0mm/s

### Minimum installation dimension

stroke+289mm

An in-line actuator design with compact installation dimension



#### **Load and Speed**

| CODE     | Rated Load    |        | Self Locking           | Self Locking              | Typical                      | Typical Speed            |                             |
|----------|---------------|--------|------------------------|---------------------------|------------------------------|--------------------------|-----------------------------|
|          | PUSH N        | PULL N | N (PUSH)<br>with brake | N (PUSH)<br>without brake | Current at<br>Rated Load (A) | No Load<br>(32V DC) mm/s | Rated Load<br>(24V DC) mm/s |
| Motor Sp | eed (3800RPM) |        |                        |                           |                              |                          |                             |
| В        | 4500          | 3000   | 4500                   | 4500                      | 3.5                          | 6.8                      | 3.2                         |
| С        | 3500          | 3000   | 3000                   | 2500                      | 3.2                          | 9.7                      | 4.8                         |
| D        | 2500          | 2500   | 2000                   | 1500                      | 3.2                          | 13.3                     | 6.2                         |
| Е        | 1500          | 1500   | 1000                   | 700                       | 2.2                          | 17.4                     | 10.3                        |
| F        | 1000          | 1000   | 700                    | 400                       | 2.2                          | 25.6                     | 15.5                        |
| G        | 500           | 500    | 500                    | 200                       | 2.0                          | 38.3                     | 24.0                        |

- 1 The above are the speed and current figures under pushing condition.
- 2 Speed would be the same if with 12V motor, but with double current consumption comparing 24V motor.
- 3 The self locking force above needs to work with TiMOTION control system.

### TA23 SERIES

#### **Maximum load**

8,000N in push

#### **Maximum load**

4,000N in pull

#### Maximum speed at no load

38.0mm/s

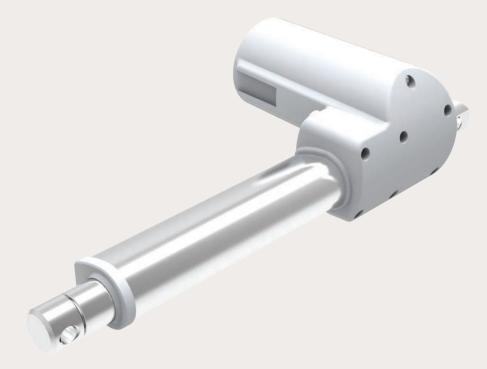
#### Maximum speed at full load

23.2mm/s

#### Minimum installation dimension

stroke+171mm

An economical solution with compact installation dimension



#### **Load and Speed**

| CODE     | Rated Load    |        | Self Locking | Typical                      | Typical Speed            |                             |
|----------|---------------|--------|--------------|------------------------------|--------------------------|-----------------------------|
|          | PUSH N        | PULL N | N (PUSH)     | Current at<br>Rated Load (A) | No Load<br>(32V DC) mm/s | Rated Load<br>(24V DC) mm/s |
| Motor Sp | eed (2600RPM) |        |              |                              |                          |                             |
| С        | 5000          | 4000   | 2500         | 3.5                          | 7.6                      | 3.9                         |
| D        | 6000          | 4000   | 4000         | 3.5                          | 5.5                      | 2.9                         |
| F        | 2500          | 2500   | 1000         | 3.2                          | 15.9                     | 8.3                         |
| G        | 2000          | 2000   | 1000         | 3.2                          | 19.8                     | 11.1                        |
| Н        | 1000          | 1000   | 500          | 2.1                          | 29.3                     | 19.1                        |
| J        | 3500          | 3500   | 3500         | 3.6                          | 11.1                     | 5.5                         |
| K        | 8000          | 4000   | 6000         | 4.0                          | 5.0                      | 2.5                         |
| Motor Sp | eed (3400RPM) |        |              |                              |                          |                             |
| L        | 6000          | 4000   | 4000         | 4.2                          | 7.0                      | 3.9                         |
| Ν        | 2500          | 2500   | 1000         | 4.1                          | 20.2                     | 11.1                        |
| 0        | 2000          | 2000   | 1000         | 4.0                          | 25.3                     | 14.9                        |
| Р        | 1000          | 1000   | 500          | 3.0                          | 38.0                     | 23.2                        |
| Q        | 3500          | 3500   | 3500         | 4.6                          | 14.3                     | 7.6                         |
| R        | 8000          | 4000   | 6000         | 5.0                          | 6.7                      | 3.3                         |
| Т        | 5000          | 4000   | 2500         | 4.2                          | 10.1                     | 5.1                         |
| Motor Sp | eed (3800RPM) |        |              |                              |                          |                             |
| Χ        | 6000          | 4000   | 4000         | 4.4                          | 8.3                      | 5.2                         |
| Υ        | 8000          | 4000   | 6000         | 5.3                          | 7.7                      | 4.4                         |

- **1** The above are the speed and current figures under pushing condition.
- 2 Speed would be the same if with 12V motor, but with double current consumption comparing 24V motor.
- 3 The self locking force above needs to work with TiMOTION control system.

#### **Dual Motor**

### TT1 SERIES

#### **Maximum load**

6,000N in push

#### Maximum speed at no load

6.8mm/s

#### Maximum speed at full load

4.6mm/s

#### **Stroke**

87mm for backrest 69mm for footrest

#### Main voltage

100~240V AC

#### **Accessory**

Handset with T-bus function\*

3x9V batteries or a rechargeable battery box

Note1: T-Bus is a communication protocol, specially designed for medical applications, which allows communication between various accessories and our control system more seamlessly and smoothly.



#### **Load and Speed**

| CODE                  | Rated Load<br>PUSH N  | Typical<br>Current at<br>Rated Load (A) | Typical Speed<br>No Load<br>(32V DC) mm/s | Rated Load<br>(24V DC) mm/s |  |  |  |  |
|-----------------------|-----------------------|---|---|-----------------------------|--|--|--|--|
| Motor Spe             | Motor Speed (2600RPM) |   |   |                             |  |  |  |  |
| D                     | 6000                  | 3.5                                     | 5.2                                       | 3.5                         |  |  |  |  |
| Motor Speed (3400RPM) |                       |   |   |                             |  |  |  |  |
| В                     | 6000                  | 3.5                                     | 6.8                                       | 4.6                         |  |  |  |  |

#### **Gear Motor**

#### Maximum speed

107RPM (±5%) after gear reduction

#### **Torque**

15N.m after gear reduction

#### **Protection class**

up to IP66

#### Certificate

UL compliant (motor only)



## **Load and Speed**

CODE 24V DC **Gear Ratio** Load (24V DC) No Load No Load Motor Type (32V DC) (24V DC) (RPM) Rated Current Rated Torque Rated Speed Speed Speed (RPM) ±5% (RPM) ±5% (Nm) (RPM) ±5% (A) 5844 (3800RPM) Α 8 15 60 107 80 **CODE** Hall Senser Output Parameters Waveform Phase

T (Period) 32V T (Period) 24V Magnet No Load

11.5~12.5ms

Two Hall Sensors

Difference

Poles

Full Load

19~22ms

T(Period) S1 S1 leads S2 S2 1/4T 1/4T 1/4T

2

#### Column

## TL2/TL2P SERIES

#### **Maximum load**

2,000N in push

#### **Maximum load**

500N in pull

#### Maximum speed at no load

19.0mm/s

#### Maximum speed at full load

10.0mm/s

#### Minimum installation dimension

371mm

#### **Option**

safety nut and Hall/Reed sensor(s)

3 stage cylindrical design



#### **Load and Speed**

| CODE                  | Rated Load<br>PUSH N  | PULL N | Self Locking<br>N (PUSH) | Typical<br>Current at<br>Rated Load (A) | Typical Speed<br>No Load<br>(24V DC) mm/s | Rated Load<br>(24V DC) mm/s |  |  |  |
|-----------------------|-----------------------|--------|--------------------------|---|---|-----------------------------|--|--|--|
| Motor Spe             | Motor Speed (2600RPM) |        |                          |   |   |                             |  |  |  |
| D                     | 2000                  | 500    | 2000                     | 3.3                                     | 14.8                                      | 8.0                         |  |  |  |
| Motor Speed (3400RPM) |                       |        |                          |   |   |                             |  |  |  |
| М                     | 2000                  | 500    | 2000                     | 4.5                                     | 19.0                                      | 10.0                        |  |  |  |

#### Note

1 The figures are the speed and current information under pushing condition.

#### Column

### TL3 SERIES

Maximum load & self-locking 4,000N

Maximum speed at no load 39.0mm/s

Maximum speed at full load 24.0mm/s

**Stroke** 100~700mm

**Dimension of cross section** 177.4 x 150.7mm

**Minimum installation dimension** stroke/2+150mm (if max. load=1,000/2,000N) stroke/2+220mm (if max. load= 4,000N)

#### 2 power cable layout options

from top or bottom

With a high bending load resistance and low operating current



#### **Load and Speed**

| CODE      | Rated Load     |                                | Self Locking | Typical                      | Typical Speed            |                             |  |
|-----------|----------------|--------------------------------|--------------|------------------------------|--------------------------|-----------------------------|--|
|           | PUSH N         | Dynamic Bending<br>Moment (NM) | N (PUSH)     | Current at<br>Rated Load (A) | No Load<br>(32V DC) mm/s | Rated Load<br>(24V DC) mm/s |  |
| Standard  | Motor (2200RPN | <b>/</b> 1)                    |              |                              |                          |                             |  |
| В         | 4000           | 1000                           | 4000         | 5.5                          | 14.5                     | 7.6                         |  |
| С         | 2000           | 250                            | 2000         | 3.5                          | 22.0                     | 13.0                        |  |
| D         | 1000           | 250                            | 1000         | 3.1                          | 39.0                     | 24.0                        |  |
| Fast Spee | ed (2800RPM)   |                                |              |                              |                          |                             |  |
| Е         | 4000           | 1000                           | 4000         | 7.2                          | 18.5                     | 11.0                        |  |
| F         | 2000           | 250                            | 2000         | 5.3                          | 37.0                     | 23.5                        |  |

- 1 The figures are the speed and current information under pushing condition.
- 2 Speed would be the same if with 12V motor, but with double current consumption.

#### Column

## TL8 SERIES

#### **Maximum load**

2,000N

#### Maximum speed at no load

24.4mm/s

#### Maximum speed at full load

18.0mm/s

#### **Stroke**

400mm

#### **Dimension of outer tube**

Ø124.4mm

#### Minimum installation dimension

350 or 370mm

3 stage cylindrical design



#### **Load and Speed**

| CODE  | Rated Load |         | Without Brake            |   | With Motor Brake         |   | Typical Speed    |                  |
|-------|------------|---------|--------------------------|---|--------------------------|---|------------------|------------------|
|       | PUSH N     | PULL N  | 0                        |   | M                        |   | No Load          | Rated Load       |
|       |            |         | Self Locking<br>N (PUSH) | Typical<br>Current at<br>Rated Load (A) | Self Locking<br>N (PUSH) | Typical<br>Current at<br>Rated Load (A) | (24V DC)<br>mm/s | (24V DC)<br>mm/s |
| Motor | Speed (20  | 600RPM) |                          |   |                          |   |                  |                  |
| А     | 2000       | 500     | 1500                     | 4.0                                     | 2000                     | 4.5                                     | 12.2             | 9.5              |
| В     | 1000       | 500     | 500                      | 4.0                                     | 1000                     | 4.5                                     | 24.4             | 18.0             |







TC8 series





TC12 series

#### TC14 series

## **Control Box**

#### **TC1 SERIES**

Number of actuators 1~4

Protection class up to IP66

**Built-in transformer type** 

El, toroidal, or SMPS

Maximum output 29V DC, 6A

Certificate

ES and IEC 60601-1 compliant

#### **TC8 SERIES**

Number of actuators 1~7

Number of handsets 1~3

Protection class up to IP66

Maximum output 30V DC, 6A

Certificate

CB, ES and EN 60601-1 compliant

#### **TC10 SERIES**

Number of actuators 1~5

Protection class up to IP66

**Built-in transformer type** 

EI, toroidal or SMPS

Maximum output 29V DC, 5A

Certificate

ES and IEC 60601-1 compliant

#### **TC12 SERIES**

Number of actuators 1~3

Protection class IPX4

Output 24V DC

Certificate IEC 60601-1 compliant

With LCD display (optional), battery box, and emergencies stop button

With wall mount battery charger or battery charger dock

#### **TC14 SERIES**

Number of actuators  $1{\sim}4$ 

Protection class Up to IP66

Maximum output 30V DC, 6A

Certificate

ES and IEC 60601-1 compliant









#### **TBB SERIES**

Capacity 2.0Ah
Input voltage 29~45V DC
Output voltage 24V DC, 2A
Protection class Up to IP66

#### **TBB2 SERIES**

Capacity 1.2Ah
Input voltage 29~45V DC
Output voltage 24V DC, 1.2A
Protection class Up to IP66

#### **TBB4 SERIES**

Capacity 1.2 or 2.0Ah
Input voltage 29~45V DC
Output voltage
24V DC, 1.2A / 24V DC, 2A
With on/off function, it's able to keep or stop discharging





TP6 series





## Power Supply

#### **TP4 SERIES**

**Type** EI, toroidal or SMPS

#### Input voltage

100V AC, 120V AC, 230V AC, or 100~240 V AC (SMPS)

Maximum output 29V, 5A

Protection class Up to IP66

#### Certificate

ES and IEC 60601-1 compliant

Type SMPS

**TP8 SERIES** 

Input voltage 100~240V AC

Maximum output 29V, 2.5A

**Protection class** Up to IP66

#### Certificate

ES and IEC 60601-1 compliant

Wall mount design

#### **TP6 SERIES**

Type SMPS

Input voltage 100~240V AC

Maximum output 31.5V, 5A

Protection class Up to IP66

#### Certificate

ES and IEC 60601-1 compliant

#### **TP9 SERIES**

Type SMPS

Input voltage 100~240V AC

Maximum output 29V, 2.5A

**Protection class** Up to IP66

#### Certificate

ES and IEC 60601-1 compliant













## **Handset**

#### **TH1 SERIES**

Connected actuators 1~4

Maximum available buttons 10

Color black or grey

Protection class up to IP66

Certificate RoHS compliant

#### **TH2 SERIES**

Connected actuators 1~4

Maximum available buttons 10

Color black or grey

Protection class up to IP66

Other option safety key

#### **TH7 SERIES**

Connected actuators 1~4

Maximum available buttons 10

Color black or grey

Protection class up to IP66

Option safety key

#### **TH10 SERIES**

Connected actuators 1~4

Maximum available buttons 10

Color black or grey

Protection class up to IP66

Back light available

#### **TH12 SERIES**

Connected actuators 1~5

**Maximum available buttons** 12

Color black or grey

**Protection class** up to IP66

Back light available

#### **TH21 SERIES**

Connected actuators 1~4

Maximum available buttons 10

Color black or grey

Protection class up to IP66

Design for direct cut current system (no need for control box)



TH24 series



TH26 series



TH30 series



TNP2 series



TNP3 series



TNP4 series

## **Handset**

#### **TH24 SERIES**

Connected actuators 1~3

**Maximum available buttons** 6

Color grey

Protection class up to IP66

#### **TH26 SERIES**

Connected actuators 1~3

**Maximum available buttons** 6

Color black or grey

Protection class up to IP66

**Options** back light

#### **TH30 SERIES**

Connected actuators 1~4

Maximum available buttons 10

Certificate

IEC 60601-1 compliant

Design with a RF system

#### **TNP2 SERIES**

#### Maximum available buttons 17

Control up to 7 channels in connection with TC8

Can be used as lock-out box

Mounted into side rail directly

Protection class up to IP66

Option back cover

#### **TNP3 SERIES**

#### Maximum available buttons 11

Control up to 7 channels in connection with TC8

Can be used as lock-out box

Protection class up to IP66

#### **TNP4 SERIES**

#### Maximum available buttons 15

Control up to 7 channels in connection with TC8

Protection class up to IP66

Mounted into side rail or foot board directly

Can be used as lock-out box















#### **TMH1 SERIES**

#### Maximum available buttons 10

For a home care application

Working with TNC, an emergency message receiver

A patient can call on caregivers for prompt assistance

#### **TMH5 SERIES**

With 3.5 inches LCD display, showing all the data and bed condition

Color black or grey

**Protection class** up to IP66

#### **TNP1 SERIES**

#### Maximum available buttons 27

Control up to 7 channels in connection with TC8

Can be used as lock-out box

Can hook on the rail

Protection class up to IP66

#### **TNP5 SERIES**

#### Maximum available buttons 25

Control up to 7 channels in connection with TC8

Protection class up to IP66

Can hook on the rail

LCD monitor design

#### **TNP6 SERIES**

#### **Maximum available buttons** 17

Control up to 7 channels in connection with TC8

Protection class up to IP66

Can hook on the rail

Option safety key

#### **TFH1 SERIES**

#### Maximum available buttons 12

Flexible gooseneck

Protection class up to IP66

Can be fixed on the head board or side rail

**Option** reading light



TAB series



TBL series



TFS2 series



TFS3 series

## Accessory TAB SERIES alarm buzzer

#### **TBL SERIES** bed bottom light

Comprised of 10 or 15 pcs small LED

2xM5 holes for installation

Low power consumption 0.8W

#### **TFS2 SERIES** foot switch

Foot switch for medical application

Maximum available buttons 6

Protection class up to IP66

### TFS3 SERIES foot switch

Maximum available buttons 2

Protection class up to IP66

Option can operate without cable







TEB series

TES series

TFS series







**TEB SERIES** emergency button

Push for emergency stop Twist-to-reset

#### **TES SERIES** external switch

External switch to control the movement of actuators

#### **TFS SERIES** foot switch

Anti-slipping paddle Compatible with all control boxes of TiMOTION

#### **TFS6 SERIES** foot switch

Maximum available buttons 10 **Protection class** up to IP66

Option can operate without cable

#### **TJB3 SERIES** junction box

A signal switch box

Support max. 2 membrane switches, 25 buttons, and 18 indicator lights



### **Accessory**

### TLB SERIES lock box

An actuator lock box and handset hub

Suitable for nurse or attendant safety control

### TNC SERIES nurse call

An emergency message receiver

Work with the handset-TMH1, suitable for home care applications

### TRF2 SERIES RF receiver

An RF receiver, compatible with the handset TH30

Suitable for home care applications

### TSS SERIES safety strip

Control the movement of actuators

Customized length or number of sections

#### **Terms of Use**

The user is responsible for determining the suitability of TiMOTION products for a specific application. TiMOTION takes great care in providing accurate and up-to-date information on its products. However, due to continuous development in order to improve its products, TiMOTION products are subject to frequent modifications and changes without prior notice. Therefore, TiMOTION cannot guarantee the correct and actual status of said information on its products.

While TiMOTION uses its best efforts to reasons as mentioned above, guarantee the availability of any particular product. Therefore, TiMOTION reserves the right to discontinue the sale of any product displayed on its website or listed in its catalogues or other written material drawn up by TiMOTION.

For the most accurate and up-to-date information on our products, please refer to TiMOTION's website

www.timotion.tw

#### **Contact information**

#### **TiMOTION Technology Co., Ltd.**

sales@timotion.tw www.timotion.tw

#### Headquarter

10F, No.100 Minquan Rd, Xindian Dist, New Taipei City, 23141, Taiwan T 886 2 2219 6633 F 886 2 2219 0295

#### **Factory**

Shiyong Minying Industrial Zone Hengli Town, Dongguan City, Guangdong, 523460, China T 86 769 8706 2055 F 86 769 8706 2056

#### **Subsidiaries**

#### **TiMOTION Kunshan**

Room 1403 (Leader International Building), No.666 Changjiang South Rd, Kunshan City, Jiangsu, 215300, China T 86 512 5526 0735 F 86 512 5526 0736

#### **TiMOTION Japan**

Uemachidai Izumimoto Building, 2F, 1-4-10, Touhei, Chuou-ku, Osaka, 542-0063, Japan T 81(0)6 6763 1110 F 81(0)6 6763 1115 Email sales@timotion.jp

#### **TiMOTION Korea**

A-1709, Woolim Lion's Valley 2 cha, 146-8, Sangdae Won-dong, Jungwon-gu, Seongnam, Gyeonggi-do, Korea T 82 31 745 1060 F 82 31 745 1062 Email sales@timotion.co.kr

#### **TiMOTION Europe**

1131 avenue Saint-Just, 77000 Vaux-le-Pénil, France T 33 (0)1 74 82 50 51 F 33 (0)1 64 79 02 12 Email\_sales@timotion.fr

#### **TiMOTION Europe**

Rep. in Benelux

Ploeg 5
7671 NE Vriezenveen
The Netherlands
T 31 546 805910
Email sales@timotion.fr

#### **TiMOTION Europe**

Rep. in Italy

20030 Senago (MI), Italy T 39 (0) 2 87 28 90 05 Email sales@timotion.it

### **TiMOTION Europe** Rep. in Germany

Am Hollenberg 6 53797 Lohmar Germany T 49 2246 9116006 F 49 2246 9116007 Email sales@timotion.co.de

#### **TIMOTION USA**

Matthews, NC 28105, USA
T (704) 708 6924
F (704) 844 0932
Email sales@timotionusa.com

#### **Distributors**

TiMOTION is represented in the following countries

Brazil India
Canada Poland
Czech Republic Spain
Finland Sweder

Turkey USA



For the most accurate and up-to-date information on our products, please scan this QR code.

