

**ottobock.**

# Triton smart ankle

Reclaim your Choice.



Quality for life

# For those who love choice.

Versatility is one of the main characteristics of life in our society today. The range of leisure activities and career development opportunities available to us has never been so broad as it is today. Being flexible and adaptable is a given for many people – whether or not they have a disability.

The goal of a mechatronic ankle joint is to emulate the functionality of an anatomical joint as closely as possible in order to give the user an expanded range of movement and greater flexibility in their everyday life.

With the Triton smart ankle, we are offering a prosthetic ankle joint which adapts intuitively not only to different walking speeds, but also to slopes and varying surfaces. The Triton smart ankle is built around the proven carbon fibre spring, which stands for dynamic movement and is featured in all the feet in the Triton range.

The combination of the carbon spring and mechatronic ankle joint enables the user to live exactly the life they want thanks to the extensive range of motion it gives them.





# Hydraulic ankle joint with 34-degree range of motion

The hydraulic system of the Triton smart ankle permits up to 17° dorsiflexion and 17° plantar flexion. With every step, the microprocessor identifies the need to adapt the angle of the ankle based on the user's individual training data as well as the input generated by the sensors.

The resulting adaptations make walking easier for the user not only on ramps, slopes and stairs, but also when walking at different speeds. Step adaptation with regard to dorsiflexion and plantar flexion occurs incrementally.

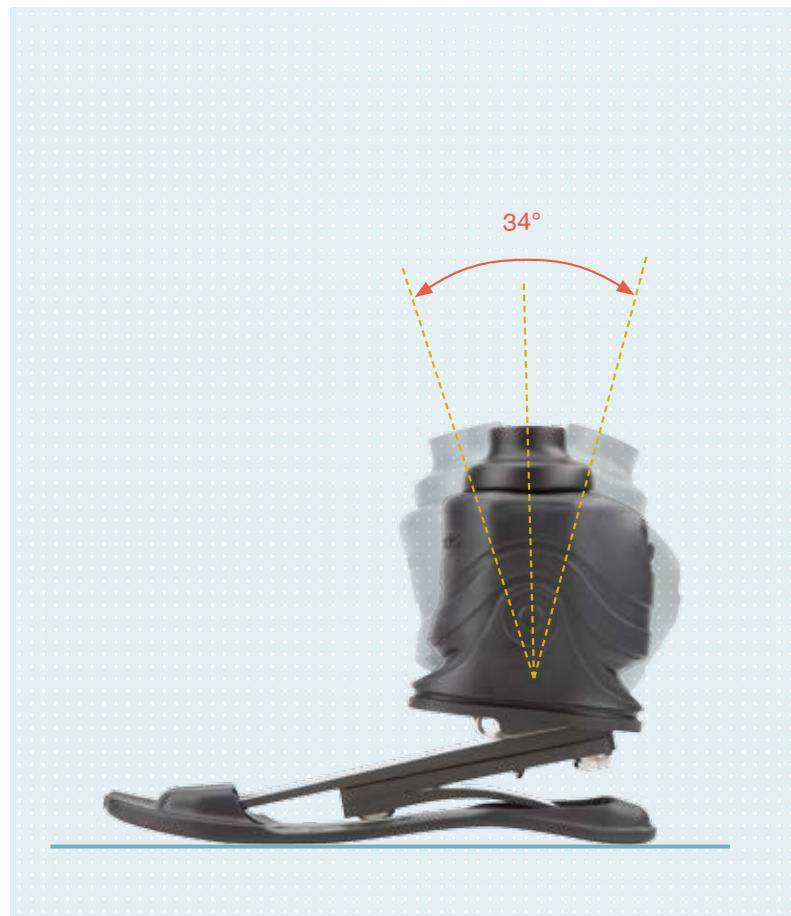
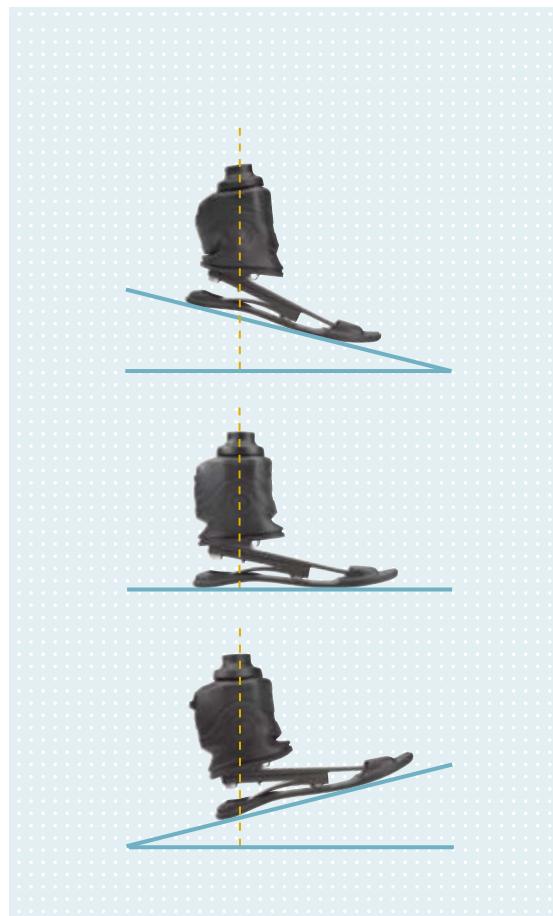
Adaptation to the desired ankle angle takes place during rollover of the foot as long as the user continues to move in the same direction. When the user is walking slowly, the foot is moved to a

slightly dorsal position as the toes are lifted (toe-off) to provide greater ground clearance at swing-through.

The hydraulics of the Triton smart ankle also provide a basic mobility of approximately 2° during each step to ensure a smooth rollover.

## **Advantages at a glance:**

- Makes walking easier, especially on slopes and ramps
- Offers more ground clearance at swing-through
- Noticeably relieves the residual limb
- Reduces the need for compensating movements
- Enables a smooth rollover





## Relief function

The user can switch on the relief function of the Triton smart ankle in a sitting or standing position. As soon as this has been activated, the foot can be freely moved into the desired flexed position, which results not only in full-surface contact with the floor but also a more natural appearance. This function can provide relief for the residual limb, especially in cramped spaces. The function is deactivated when weight is placed on the foot so that stability is guaranteed when the user is walking.

### **Advantages:**

- Relief for the residual limb, especially when sitting in cramped spaces
- No need to balance on the heel or toes when standing on uneven ground
- The prosthesis leg can be easily positioned underneath a chair
- More natural appearance

## Heel height adaptation

The range of motion of the Triton smart ankle can also be used to adapt the ankle joint to different heel heights. The heel height does not need to be preset by the prosthetist. The user can wear shoes with heels of varying heights (up to max. 50 mm) from day to day or walk comfortably with bare feet as well. The adaptation can be carried out using either the Galileo™ smartphone app or with a button located on the joint. After the user has changed their shoes and the heel height adjustment has been triggered, the microprocessor calculates the new starting point and adapts the position of the ankle joint accordingly.

### **Advantages:**

- Option of wearing different types of shoes without changing the basic settings of the foot
- Heel height adjustment performed by user with no need for additional tools



## Perceived toe stiffness

The user has the option of adjusting the starting position of the Triton smart ankle in a slightly dorsiflexion or plantar flexion direction. The adjustment (upwards/downwards) is perceived by the user as a change in forefoot stiffness and thereby promotes adaption to more relaxed or dynamic gaits.

**Advantage:**

- Improved adaption of the foot to desired gait types

## Free ankle motion

The user can switch on the so-called free ankle motion feature using the Galileo™ app. When this function is used, the hydraulic valve opens for 15 seconds and the foot can be moved to any desired position. This function can only be controlled using the Galileo™ app.

**Advantage:**

- Considerably easier to put on and take off trousers and shoes

## Ankle Lock

In contrast to the free ankle motion feature, there is also the option to lock the ankle joint, e.g. for certain exercises. The locking function can only be switched on using a movement pattern, and not via the app.

**Advantage:**

- Fixed foot position for selected activities or exercises

## GalileoTM app for users

To make the most of the Triton smart ankle's range of options, users can download the app for iOS or Android systems and then use their smartphone as a remote control.

The joint can be easily and comfortably controlled via smartphone so that no further remote control unit is necessary. The battery level, heel height adjustment and toe stiffness can be controlled with the app.

**Advantage:**

- Easy access to various foot features
- No need for an additional remote control unit



# GalileoTM app for practitioners

Setting up the Triton smart ankle and carrying out training with it is completely wireless using the Galileo™ app (compatible with iOS and Android platforms). The Galileo™ app is available in the corresponding app stores.

## No certification necessary

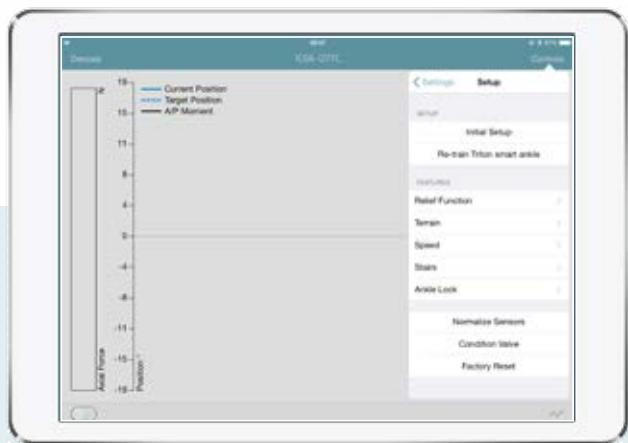
The installation procedure is similar to that of previous Triton prosthetic feet. The only thing that's new is the initial setup with the Galileo™ app, which can be carried out in an easy and straightforward manner.

The ankle sensors are calibrated to the user's individual gait pattern with the help of the app. As the supervising technician, you will not require a special certification.



## Advantage:

- Quick initial setup of the Triton smart ankle with the Galileo™ app
- No special certification required for the prosthetist

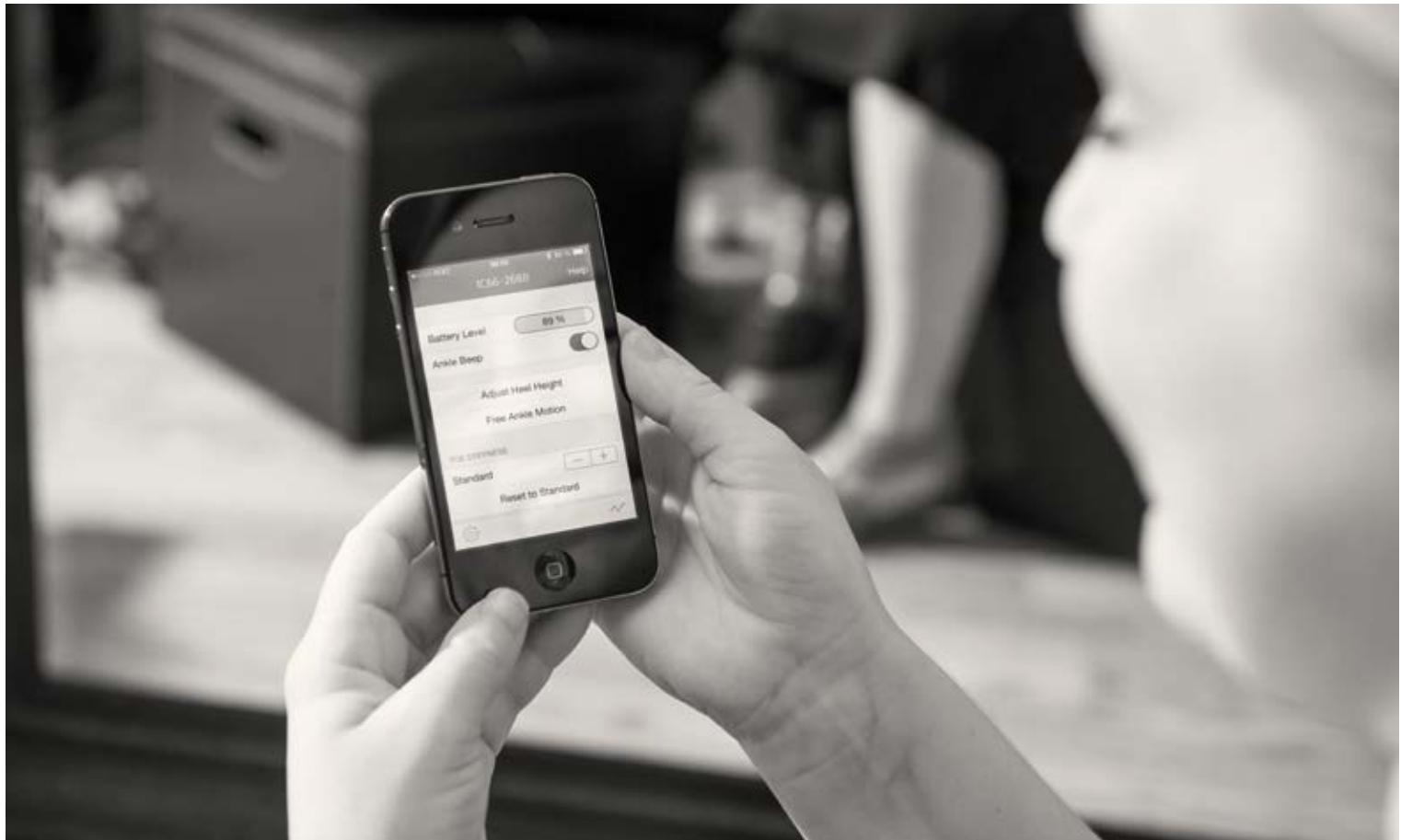


## Warranty and service

The comprehensive warranty package offers your customers guaranteed mobility with no repair costs for 3 years:

- 3-year manufacturer's warranty
- Repairs free of charge\*
- Condition-based service
- Service unit for use during repairs and service inspection, free of charge

\* Superficial damage and damage caused by improper use, intent, negligence or force majeure are not covered.



## Triton smart ankle Details

### Pyramid adapter

The pyramid adapter provides a secure and stable connection to the entire prosthesis.

### Force and moment sensor

The integrated Europa™ technology measures the forces and moments affecting the prosthesis and provides data for ankle adaptation.

### Battery and electronics

The battery and electronics are protected inside the ankle joint. The integrated microprocessor coordinates all measurement and control processes.

### Hydraulics

The hydraulics control the ankle movement. The opening of the valve enables plantar flexion or dorsiflexion of the ankle.



### Bluetooth®

Integrated Bluetooth® technology enables straightforward communication with an iOS or Android device.

### Charging unit and operation

The prosthetic foot can be charged via a USB connection. Two buttons for manual operation as well as an optical LED status display are located directly below this.

### Angle and acceleration sensors

These sensors make it possible to determine the angle of the ankle and its acceleration in space and provide important information to the microprocessor.

### Triton prosthetic foot module

The interaction of the three carbon fibre spring elements ensures a very smooth transition between the individual gait phases. The split forefoot section provides the safety and control needed to deal with uneven ground and quick changes in direction.

# Indications and contraindications for the Triton smart ankle

The following indications and contraindications are the recommendations of Ottobock. These and other possible indications are subject to case-by-case examination by the prescribing physician.

## Indications:

- Leg amputees with amputation levels transtibial, knee disarticulation\*, transfemoral\*
- Mobility grades 2, 3
- Maximum body weight 100 kg
- Foot sizes from 22 cm to 29 cm

\*Knee disarticulation and transfemoral fittings are to be combined exclusively with the C-Leg, C-Leg compact, Genium and Genium X3 mechatronic knee joints manufactured by Ottobock.

## The Triton smart ankle is especially suitable for patients who ...

- need to frequently navigate longer inclines, declines or slopes, as the microprocessor-controlled hydraulic system is capable of adapting incrementally to the change in ankle position and thereby enables a smoother rollover movement.
- primarily work in a seated position or who need to sit for longer periods. The relief function allows the foot to freely move into the dorsal or plantar flexed position, establishing full contact with the floor and thereby noticeably relieving the residual limb.
- frequently change their walking speed, as the microprocessor-controlled hydraulic system enables adaptation to a lower walking speed hereby increasing dorsiflexion for better swing-through, and adaptation to higher speeds by increasing plantar flexion for a more dynamic toe-off.
- like to change shoes frequently or need to do so due to their work. Whether ankle boots, trainers or work shoes – the user can determine a heel height from 0-50 mm themselves without affecting the overall statics of the prosthesis.

- frequently need to cover long distances, as the combination of characteristic Triton performance and the<sup>2°</sup> hydraulic compliance ensure a dynamic yet smooth rollover function. In addition, the perceived toe stiffness feature enables the user to adapt the way they walk to the situation.
- don't have the opportunity to charge their prosthesis every day. The battery capacity of the Triton smart ankle covers a period of 2 to 3 days.

## Contraindications

- Amputees with mobility grade 1 (indoor walker)
- Bilateral transfemoral amputees
- Mental capabilities or life circumstances which preclude the appropriate handling of the mechatronic ankle joint

# Components and accessories



2C66=\* Footshell



2Z504=1 Ankle cover



2Z505=1 Ankle cover cap

757S7\*  
757L2  
Power supply unit &  
AC adapter

2F60=\* Heel wedges



SL=Spectra-Sock

## Recommended socket systems



6Y94=\* Liner Dynamic Vacuum System



4R220 Dynamic Vacuum System



453A3=\* ProFlex knee sleeve

Informationen

647G1155

Instructions for use

## Technical data

### MOBIS

#### Amputation level

2, 3

Transtibial, knee disarticulation,  
transfemoral

#### Max. body weight

100 kg

#### Sizes

22–29 cm

#### Weight with footshell\*

1474 g

#### System height\*

132 mm

#### Clearance\*

150 mm

#### Heel height

0–50 mm

34°

#### Range of motion

#### Operating time when battery is fully charged

Up to 72 hours

#### Approved knee joints

C-Leg, C-Leg compact, Genium,  
Genium X3

\* for foot size 26

### Scope of delivery

Ordering a 1C66 Triton smart ankle includes a SL=Spectra protective sock, a set of 2F60\* heel wedges, a charger (consisting of 757L2 power supply unit, 757S7\* AC adapter and 625W26 USB cable) as well as the 2C66\* functional footshell and 2Z504=1, 2Z505=1 ankle covers. The footshell can be supplied in beige (4) or light brown (15).

