

TWINDRIVE® TD1 220/250







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Preface

We are delighted that you have chosen a product from LINAK A/S. LINAK systems are high-tech products based on many years of experience in the manufacture and development of actuators, electric control boxes, controls, and chargers. We are also constantly improving our products to meet customer requirements.

This User Manual will tell you how to install, use, and maintain your LINAK TWINDRIVE[®] products.

We are sure that the TWINDRIVE[®] products will give you many years of problem-free operation. Before our products leave the factory they undergo full function and quality testing. Should you nevertheless experience problems with your systems, you are always welcome to contact our service departments or service centres.

LINAK subsidiaries and distributors all over the world have authorised service centres, which are always ready to help you.

LINAK provides a warranty on all its products. This warranty, however, is subject to correct use in accordance with the specifications, maintenance being done correctly and any repairs being carried out at a service centre, which is authorised to repair LINAK products.

Changes in installation and use of LINAK systems can affect their operation and durability. Changes must therefore only be made by agreement with LINAK A/S and are made at your own risk.

LINAK A/S

Important information

Important information on LINAK[®] products can be found under the following headings:

Warning!

Failure to comply with these instructions may result in accidents involving serious personal injury.



Failing to follow these instructions can result in the product being damaged or being ruined.

Safety instructions



Safe use of the system is possible only when the operating instructions are read completely and the instructions contained are strictly observed.

Failure to comply with instructions marked with the "NOTE" symbol may result in serious damage to the system or one of its components.

Persons who do not have the necessary experience or knowledge of the product/products must not use the product/ products. Besides, persons with reduced physical or mental abilities must not use the product/products, unless they are under surveillance or they have been thoroughly instructed in the use of the apparatus by a person who is responsible for the safety of these persons.

Moreover, children must be under surveillance to ensure that they do not play with the product.



It is important for everyone who is to connect, install, or use the systems to have the necessary information and access to this User Manual.



If there is visible damage on the product it must not be installed.

Before installation, reinstallation, or troubleshooting:

- Stop the TD1
- Switch off the power supply and pull out the mains plug.
- Relieve the TD1 of any loads, which may be released during the work.

Before start-up:

- Make sure that the system has been installed as instructed in this User Manual.
- Make sure that the voltage is correct before the system is connected to the mains. (See TD1 label on page 10).
- System connection. The individual parts must be connected before connection to the mains.

(continued)

During operation

- Take care that the cables are not damaged.
- Unplug the mains cable on mobile equipment before it is moved.
- The products must only be used in an environment, which corresponds to their IP protection.

Repairs

In order to avoid the risk of malfunction, all TWINDRIVE[™] repairs must only be carried out by authorised LINAK workshops or repairers, as special tools must be used and special gaskets must be fitted. TWINDRIVE under warranty must also be returned to authorised LINAK workshops.



Warning!

If any of the TWINDRIVE[™] products are opened, there will be a risk of subsequent malfunction. Furthermore, the warranty will not cover, when the product has been opened by unautorised personnel.



Warning!

The TWINDRIVE[™] systems do not withstand to cutting oil.



Warning!

If the supply cable is damaged the product must not be used or connected to the mains. The product has to be replaced by a new to avoid a safety hazard.

• Statement – for all intentional and unintentional radiators: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

• Statement for Digital devices for Class B:

NOTE: 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 in-stalled 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 or more 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.

Misc. on the TWINDRIVE® TD1 220/250 system

This system is a TWINDRIVE system developed for leisure beds and for indoor use in private homes.



We advise children and disabled persons not to use the TD1 system without supervision.

Warranty

There is 36 months' warranty on the TWINDRIVE® products TD1 and HB10/ HB20 against manufacturing faults calculated from the production date of the individual products (see label). LINAK A/S' warranty is only valid in so far as the equipment has been used and maintained correctly and has not been tampered with. Furthermore the system must not be exposed to violent treatment. In the event of this, the warranty will be ineffective/invalid. For further details, please see LINAK A/S' ordinary conditions of sale.

Maintenance

Clean dust and dirt on the outside of the system, at appropriate intervals and inspect them for damage and breaks.

Inspect the connections, cables, and plugs and check for correct functioning as well as fixing points.



Check emergency lowering batteries yearly for their full capacity. If not, they have to be changed. Type 9V 6F22 or 6LR61.



The system must only be cleaned with a firmly wrung cloth. The cleaners and disinfectants must not be highly alkaline or acidic (pH value 6-8).



It is not allowed to use solvents for cleaning up.

Description of the TWINDRIVE® TD1 220/250 system

Each TWINDRIVE[®] TD1 unit consists of 1 - 2 internal motors and a built-in control box function which makes it a very compact unit. The mains cable is fixed. Only the handset and optional 1 - 2 external actuators must be connected.

Application of the TWINDRIVE® TD1 220/250 system:



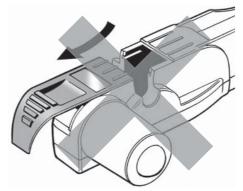
Irrespective of the load the **duty cycle 10%** ~ 6 min./ hour or max. 2 min. at continuous use stated in the data sheets, must NOT be exceeded as this will result in a superheating of the motor and the spindle nut. Exceeding the duty cycle will result in a dramatic reduction of the life of the system.



Do not turn the system if it is not mounted in a bed.



Do not open the closing device on the TD1 during operation as this may cause malfunction and possibility of personal injuries.





Be sure that the closing devices are in place before the TD1 is used.

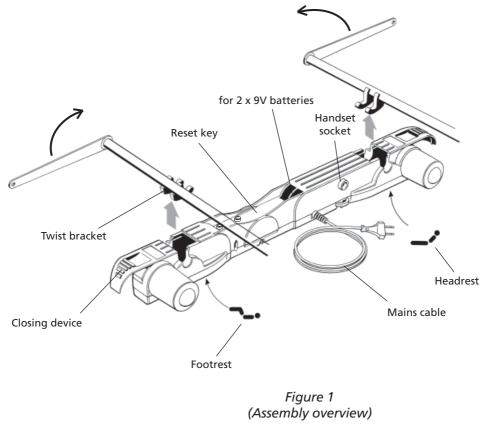
The TWINDRIVE® TD1 system range contains the following products:

- 1 TD1
- 1 HB10/HB20 or
- 1 HB10RF/HB20RF

Optional

- 9V batteries
- Mains cut-off

Mounting guidelines for the TWINDRIVE® TD1 220/250 system

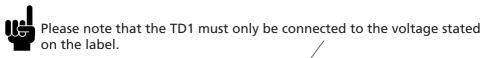


Mounting the handset



Recommended usage of the strain relief the PCB. Otherwise the DINplug and print might be damaged when overstraining the cable.

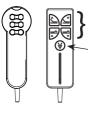
Connection to the mains





The HB10/HB20 with cable

Use of the handset



up/down operational (1-2 channels) common operation up/down (option)

the up/down operation is only activated when holding the button down.

Functional description of RF handset

Transmitter HB10:



Up – down head motor Up – down foot motor Simultaneous up/down

Transmitter HB20:



Up – down head motor Up – down foot motor

common operation up/ down (option)

Start-up - How to install RF handset:

The TD1 can accept commands from up to 2 RF handsets.

From the factory the TD1 cannot recognize any RF handsets at all and must be matched to the RF handset(s) by the end-user/bed manufacturer before these can control the TD1 operation.

Activating the learning mode:

- Activate the reset key on the TD1 by using a finger to keep the button pressed.
- Keeping the reset key activated; the RF handset(s) must be activated one at a time by pressing a random key on the RF handset. The RF handset ID's are stored in the TD1 memory and at the same time, previous RF handset ID's are erased.



- After having activated the RF handset keys; the reset key must be released.
- If no RF handset keys are activated during the matching procedure; no changes are made in the ID memory of the TD1.



Disturb of RF signals:

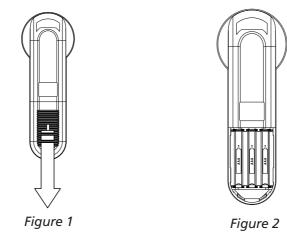


Please be aware that other equipments (as e.g. doorbells) which use the 433 MHz can disturb the RF signal.

Under some circumstances it isn't possible to run 2 or more TD3 at the same time (RF signal gets disturbed).

Changing of batteries

- 1. Remove the battery cover (see Figure 1).
- 2. Use a blunt instrument to remove the battery.
- 3. Place 3 new batteries type R03 or LR03 (AAA) in the transmitter. Press a button for 3 sec. If above procedure not is performed the handset will function anyway after app. 5 minutes. Direction of how to place the batteries in the transmitter is shown in *Figure 2*



Exchange/connection of 9V batteries (Type 9V 6F22 or 6LR61)

- 1. Remove the clamps from the battery (Figure 3).
- 2. Use a blunt instrument with a diameter of Ø6 mm to remove the battery (Figure 4).
- 3. Push the battery upwards via the two holes in the bottom of the unit (Figure 5).



Figure 3

Figure 4

Figure 5

Disposal of batteries.

"Details regarding safe disposal of used and leaking batteries: Batteries should be disposed in accordance with appropriate federal, state and local regulations. LINAK recommend that used or leaking batteries are disposed through local recycling system. Please do not throw used or leaking batteries in normal household waste or in nature. This will causs damage to the enviroment.

How to deal with leaking batteries.

Leaking batteries should be disposed as described above.

If leaking batteries are discovered in the product the batteries must be removed at once to minimize damage to the product. If leaking batteries are left in the product it might become defect.

It is recommended to use plastic gloves when handeling leaking batteries. The contents of a leaking batteries can causs chemical burns and respiratory irritation.

If exposed to the contents of a leaking battery please wash with soap and water. If irritation persists please seek medical attention. In case of eye contact please flush eyes thoroughly with water for 15 minutes and seek medical attention."

Accessories and repair

Ordering accessories

Order from your nearest LINAK[®] dealer or subsidiary.

Accessories

Please contact your nearest LINAK dealer for information.

Repairs

Systems should only be repaired by an authorised LINAK servicecentre or engineer. Systems to be repaired under warranty must be sent to an authorised LINAK service centre.



Warning!

By unauthorised opening of the system there is a risk that it may malfunction at a later date. Furthermore, the warranty will not cover, when the product has been opened by unautorised personnel.

Spare parts

Please contact your nearest LINAK dealer for information on spare parts.

Child lock (only by HB20RF Handset)

To enable the function the position of the switch in the front of the transmitter must be changed.

To unlock the handset press up and down keys of the 2nd row at the same time for one sec. When the blue LED turns on the handset is unlocked for 10 sec. after last key press. Then it automatically locks again. If the up + down key is pressed more than 2 sec. the handset will lock again. If the handset is locked and the user tries to operate it, it will give a short flash with the LED to indicate "key is pressed, but handset is locked".

Enable/Disable Child lock

To enable the function the position of the switch in the front of the transmitter must be changed.

N.B The Child lock only locks actuator functions. Therefore, it is disabled while the HB is in massage command mode.

Unlock of Child lock

Press up and down keys of the 2nd row at the same time for one sec. When the blue LED turns on the handset is unlocked.

 \bigwedge

The handset is not unlocked If the key is not are released again before the blue led turns off.

Automatic lock

The handset is unlocked for 10 sec. after last key press. Then it automatically locks again.

Signaling of handset is locked

If the handset is locked and the user tries to operate it, it will give a short flash with the LED to indicate "key is pressed, but handset is locked".

Disposal of LINAK's products

As LINAK's customers often ask us how our products can be disposed of or scrapped we have prepared this guidance that enables a classification to different waste fractions for recycling or combustion.

Guidance

We recommend to disassemble our product into as many fractions as possible at the disposal and try to make it recycable. As examples of main groups within waste fractions we can mention:

Metal, plastic, cable shoe, combustible waste, and collection for recovery.

Some of these main groups can be subdivided, e.g. metal can be divided into iron, stainless steel and aluminium, and alloy steel. Plastic can e.g. be divided into ABS, PA, PE, and PP.

As an example of sorting, please find below a list stating in which recycling groups the differenct components of LINAK's products ought to be placed:

Product	Components	Recycling group
Twindrive:	PCB Plastic housing Cable Trafo Batteries Spindle and motor	Electronics scrap Plastic recycling or combustion Cable scrap Scrap Recovery Scrap
Handset/Control:	Plasic housing Cable PCB	Plastic recycling or combustion Cable scrap Electronics scrap

By now almost all our casted plastic parts are supplied with an interior code for plastic type and fibre contents, if any.

Main groups of disposal

Product main groups	Scrap	Cable scrap	Electronics scrap	Plastic recycling or combustin	Comments
TD1	х	х			The metals can be sorted for steel or aluminum
HB10		Х	Х	Х	
HB20		х	Х	Х	
DJB			Х	х	

Mains cut-off (optional)

The mains cut-off function disconnect the power to the TD1 system, if the system is not used. The mains cut-off is 100% maintance-free.

The mains cut-off is available in 2 versions - an external version or an internal version.

The external version is a small box placed on the plug of the mains cable.

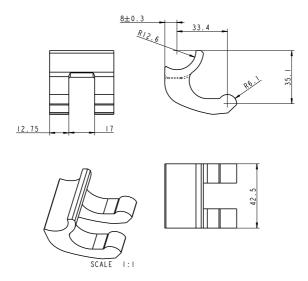
The internal version is integrated in the TD1 and thereby not visible. TD1 systems with internal mains cut-off are labelled TD1XXXXXXXX22XX.



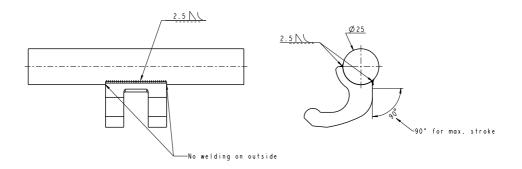
Please observe that TD1 systems with mains cut-off do not work in houses with "Hausfreischaltung".

How to mount (in chronological order): Welding the twist bracket on the frame (0701030)

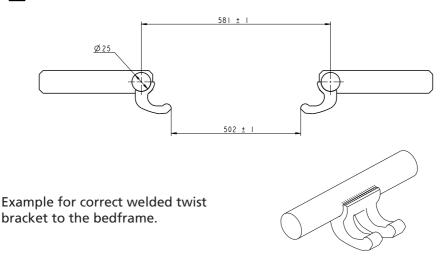
1) For the TD1 it is important that one does not weld on the outside of the twist bracket because there is not space for a welding seam in the motor housing. One may weld the bracket along the whole length of its ends.



2) To maintain the correct angle of rotation of the headrest and the footrest it is important that the twist bracket is welded according to the above instructions. Non-compliance with the instructions could lead to a smaller angle of rotation or in a worst case damage to TD1.



It is very important that the axle distance is kept.



3) Before mounting, both mounting brackets must be pulled out to their outer position by pushing them back. This gives freedom of movement to the bed bracket. Mounting is done by pushing the bed bracket into the TD1 unit and thereafter pushing the mounting brackets back again.

Label for the TWINDRIVE® TD1 System:

	PROVE YOUR LIFE	
Angle	: TD1010000A00000 :2006.05.09 :230-240 V ~, 50 Hz :50 W : 280 Nm : Head 68° / Foot 45° le:10%, Max. 2 min./18 min.	
NOT TO BE	OPENED BY UNAUTHORIZED PERSONNEL	<u>∧</u> €€

Label for the Handset HB10:

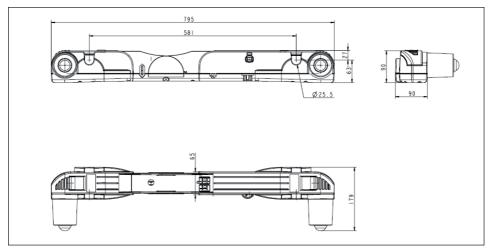


Label for the Handset HB20:

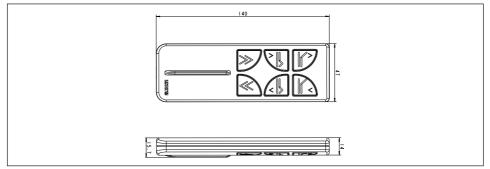


DRAWING APPENDIX

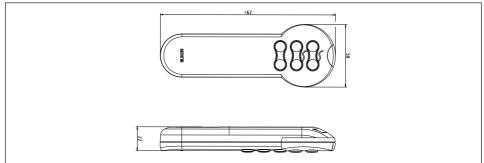
TWINDRIVE® TD1 System:

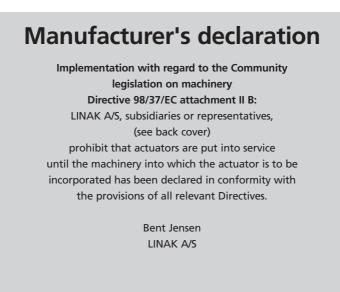


HB10 Transmitter



HB20 Transmitter





LINAK APPLICATION POLICY

The purpose of the application policy is to define areas of responsibilities in relation to applying a LINAK product defined as hardware, software, technical advice, etc. related to an existing or new customer application.

LINAK products as defined above are applicable for a wide range of applications within the Medical, Furniture, Desk, as and Industry areas. Yet, LINAK cannot know all the conditions under which LINAK products will be installed, used, and operated, as each individual application is unique.

The suitability and functionality of the LINAK product and its performance under varying conditions (application, vibration, load, humidity, temperature, frequency, etc.) can only be verified by testing, and shall ultimately be the responsibility of the LINAK customer using any LINAK product.

LINAK shall be responsible solely that the LINAK products comply with the specifications set out by LINAK and it shall be the responsibility of the LINAK customer to ensure that the specific LINAK product can be used for the application in question.

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The user is responsible for determining the suitability of LINAK products for a specific application.

LINAK A/S takes great care in providing accurate and up-todate information on its products. However, due to continuing developments in order to improve its products, LINAK products are subject to frequent modifications and changes without prior notice. Therefore, LINAK cannot guarantee the correct and actual status of said information on its products. While LINAK uses its best efforts to fulfil orders, LINAK cannot, for the same reasons as mentioned above, guarantee the availability of any particular product. Therefore, LINAK 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 LINAK.

All sales are subject to the Standard Terms of Sale and Delivery for LINAK A/S. For a copy hereof, please contact LINAK



WE IMPROVE YOUR LIFE