



Installation Instructions for the Manufacturer of the End Product

Locking Device
Operating Element



Locking Device

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General Information

These instructions are intended for the manufacturer of the end product and are not designed for passing on to the operator of the end product. However, with regard to the specialist information contained herein, they can well serve as a basis for drawing up the end product manual.

It is essential to note the information contained in these instructions! In doing so, you can prevent mistakes being made in installing or connecting the system which could result in

- **injury and accidents as well as**
- **damage** to the drive system or the end product.

DEWERT **accepts no liability** for damage caused as a result of...

- non-observance of these instructions,
- alterations to the product not approved by DEWERT or...
- the use of spare parts not manufactured or approved by DEWERT- it is possible that these do not ensure adequate safety!

Due to the policy of ongoing product improvement, DEWERT reserves the right to carry out technical changes at any time without prior notification!

1. Designated Use

The **Locking Device** operating element is **intended for use** in DEWERT drive systems for locking/releasing drive movements, e.g. in beds...

- for the disabled,
- for the hospital sector.

The **Locking Device** is **not intended for use**...

- in an environment where **flammable** or **explosive** gases or vapours (e.g. anaesthetics) are likely to occur,
- in a damp environment, i.e. outdoors,
- In applications intended for cleaning in wash tunnels,
- in applications in which inadvertent movements are not prevented by appropriate technical measures,
- in the immediate vicinity of young children.

2. Prerequisites

The installation steps described in these instructions must be performed by a **fully trained electrical engineer**.

- This being the case, you should never carry out this work **yourself** unless you are a **qualified electrical engineer** or
- you **should entrust** this work to suitably **qualified persons** only.

Conformity according to EC Directives

The **Locking Device** is supplied ex factory as a **machine not ready for use** in accordance with the EC Machinery Directive. In other words, you may not put the drive control system into operation until you have met the **safety objectives** of the Machinery Directive and issued a corresponding **Declaration of Conformity!**

The drive system meets the safety objectives of the EC Directives concerning "**Low Voltage**" and "**Electromagnetic Compatibility (EMC)**".

The **Locking Device** is **not a medical product** - for installing for use in such a product, manufacture in **conformity** with the EC Directive for Medical Products or other regulations is the responsibility of the **manufacturer of the end product**.

Locking Device

The **Locking Device** is **not a medical product** - for installing into same, manufacture in **conformity** with the EC Directive for "Medical Products" or other regulations is the responsibility of the **manufacturer of the end product**. For this purpose, in the case of the CARE L/CARE/HOSP drive systems, DEWERT has additionally applied, fully or partially, a number of standards from the medical products sector, in order to **facilitate** use in medical products, e.g.

EN 60601-1	Safety of Electromedical Equipment
EN 60601-1-2	Electromagnetic Compatibility of Electromedical Equipment
EN 60601-2-38	Safety of Hospital Beds (CARE/CARE L version only)
EN 1970	Adjustable Beds for the Disabled (CARE/CARE L version only)

Caution!

For your own safety!

When designing the **bed construction**, take into account any areas in which an inadvertent movement could prove hazardous.

Shutdown in an emergency is achieved by **pulling out the mains plug from the drive system!** The mains plug must therefore be accessible at all times when the system is in operation to ensure it can be quickly pulled out of the wall socket in an emergency.

Avoid subjecting the mains cable and connecting cable to mechanical loads. Regular visual checks of the cables should be carried out at short-term intervals and in particular each time it has been subjected to a mechanical load.

If the mains cable of the drive system gets damaged, it must be replaced in order to prevent hazards. **Work to and replacement of the mains cable may only be carried out by specialist personnel holding the qualifications described on page 3 or by persons who have taken part and successfully completed the corresponding training programmes offered by DEWERT.**

In the Operating Instructions to be drawn up by yourselves, it is essential that you draw the operator's attention to the points mentioned here.

3. Getting to Know the System

The **Locking Device** is intended for the German market and complies with the Law applicable in Germany in implementation of relevant EC Directives.

To put the operating element **Locking Device** into operation, **further components, e.g. control unit, drive with integral control PC board...**are required.

a) Connectable components

Operating Element	Main Drive	Control Unit
Locking Device	DUOMAT 7 ¹⁾ DUOMED	MCL ¹⁾ SG 300 ¹⁾ SGAG 300 ¹⁾ MBXL ²⁾

1) Versions CARE/CARE L and HOSP

2) Versions CARE/CARE L

Locking Device

b) Technical data

Input voltage..... :	24 V DC SELV max. 40 V DC SELV
Approved current capacity, contact load rotary switch..... :	max. 150 mA
Approved current capacity, contact load adjustment key..... :	max. 50 mA
Protection classification..... :	III
Lockable drives..... :	1 - 3
Equipment versions..... :	Trendelenburg, Antitrendelenburg
Protection category..... :	IP20 (optional IP44 / IP66)
Colours..... :	Grey

Dimensions and weights

Length x width x height..... :	approx. 83 x 68 x 36.5 mm
Weight..... :	approx. 0.2 kg

Ambient and storage conditions

Room temperature..... :	from +10° to +40° C
Rel. Humidity..... :	from 30% to 75%

4. Fitting

The supply package includes a **Locking Device** - and depending on the order, a **control unit**, a **double drive**, a **handset** and **slave drives**. The components are prewired ready to plug in.

a) Installation (examples)

Caution!

Only ever connect or disconnect electrical components when they are **voltage-free**.

Example: Using **four screws (1)**, fix **adapter plate (3)** to **frame (2)** as shown in **figure a)**. Make sure that there is sufficient space for the installation. Slide **Locking Device (4)** onto **adapter plate (3)** until **locking mechanism (5)** engages, **figure b)**. Take care that the **connection lead (6)** does not get jammed or trapped.

Figure a: Screw adapter plate (3) to frame (2).

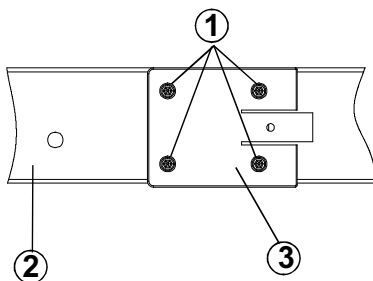
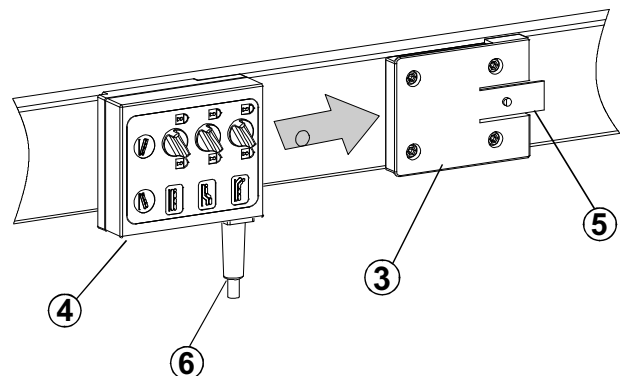


Figure b: Slide Locking Device (4) onto adapter plate (3).



Locking Device

b) Electrical connection

In the **Operating Instructions** to be issued by you, point out to the operator that if cables are **driven over**, they could sustain damage. **Mechanical loads should also be avoided.**

When routing the cables make sure that they

- cannot get entangled or trapped,
- are not subjected to mechanical loads (i e. do not pull, apply pressure or bend),
- cannot get damaged in any other way.

Make sure that the cables, in particular the **mains cable**, are fastened to the application with adequate **strain relief** and **kink protection** and that suitable constructional measures prevent the **mains cable from trailing on the floor** when the application is being **moved**.

d) Dismantling

Disconnect the plug-in connectors from the respective connecting sockets.

Example: **Support the Locking Device (4)**, press **locking mechanism (5)** onto **adapter plate (3)** at the same sliding **Locking Device (4)** back. The **Locking Device** is now disengaged and can be removed (**see figure a/b, page 7**).

Make sure that the cables cannot sustain damage when the application is moved.

5. Operation

For drawing up the Operating Instructions for the End Product, you can use the specialist information described herein. Please bear in mind that these instructions are intended for you as a specialist and not for the potentially non-professional operator of the end product.

Attention!

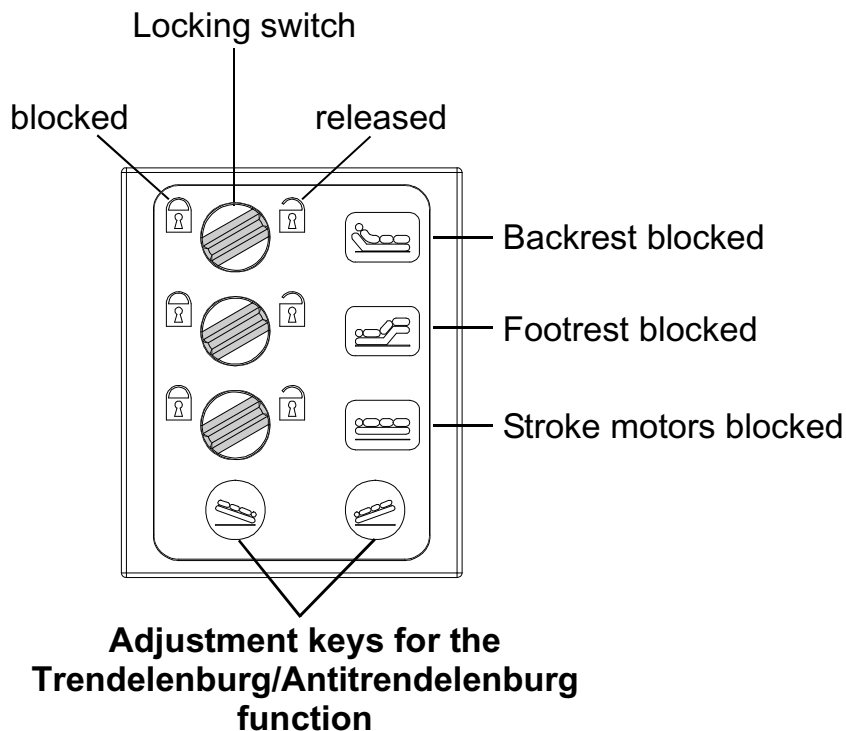
- **The Locking Device is not intended to be used by small children or the unsupervised infirm.**
- **The Locking Device is not a toy for children to play with.**

a) Prerequisites

The functions of **adjustment keys are only available** provided **these are not blocked** on the Locking Device. In certain circumstances it may be advisable to block functions in order to prevent specific movements from being carried out.

b) Locking Device function (example)

Locking Device with 3 locking switches and 2 adjustment keys



To guarantee first error security, you can block the drive movements via the Locking Device:

- Turn the **locking switch** to the "**blocked**" position.
- **Check** that the function is blocked by pressing the corresponding adjustment key on the handset. The drive should be **immobilized**.
- If movement is carried out, the drive system must be replaced immediately.

The Locking Device features the same pictographs as on the handset, i.e. the depicted function is blocked by the locking switch. Blocking is symbolized by a closed shackle lock. Furthermore, the Locking device features up to 3 adjustment keys which by way of example (depending on the version) can initiate Trendelenburg/Antitrendelenburg or other functions.

Blocking the other functions is possible by blocking the backrest, footrest and/or the stroke motors (height adjustment).

Locking Device

c) Maintenance and Repairs

At regular intervals carry out the inspections in accordance with the BGV A3 (Instruction of the Professional Trade Association). The inspections must be performed by an electrical specialist.

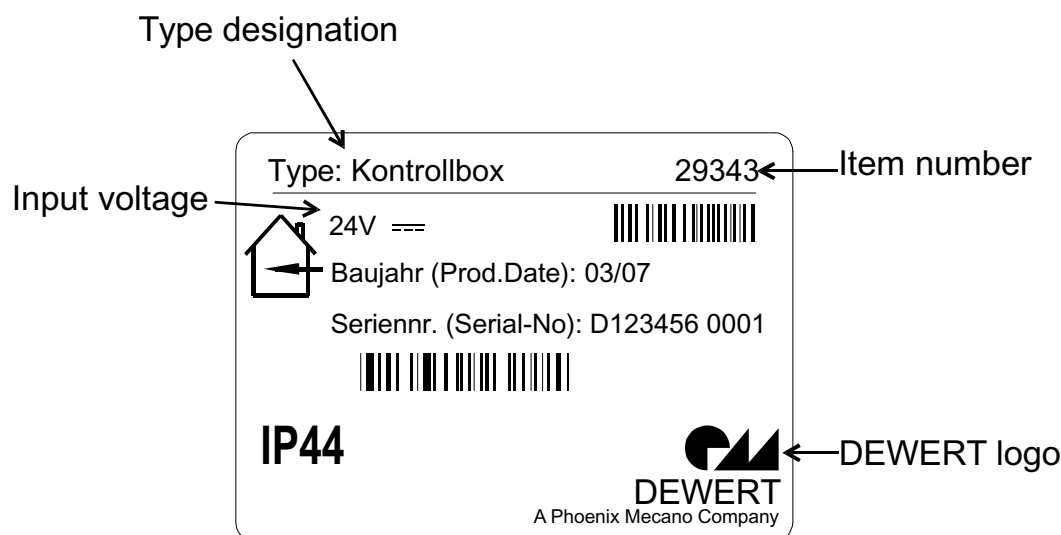
The recommended inspection period in accordance with the BGV A3 is: **6 months**

In addition to the above, the following checks should be carried out at shorter intervals:

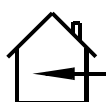
- **Regular visual checks** for damage of all kinds
Check the housing for cracks and fractures and the mains connection lead, handset leads and drive leads for signs of pinching and shearing-off. Also check the strain relief with kink protection, in particular after each case of mechanical loading.

6. Type label and Seal

Each component carries a type label giving the exact designation, item number and technical specifications (for explanation see following figure as an example).



Graphical Symbols



Use in dry rooms only

IP44

Protection category

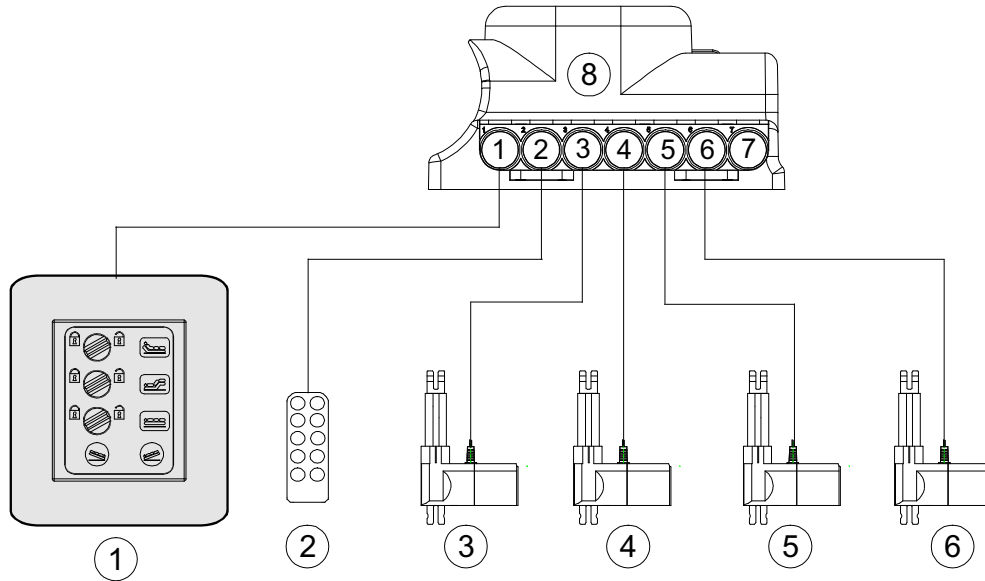


In order to guarantee the safety of DEWERT products, a seal is attached to all DEWERT products. Opening the product damages the seal, thereby indicating that the drive has been altered or tampered with. The drive may only be opened by specialist personnel holding the qualifications as described on page 3.

Locking Device

8. Connecting Diagram with Locking Device (Example)

(MCL control unit with additional equipment)



Only connect the components as shown!

This can otherwise result in damage to the drive control unit!

Pos.	Part designation	Description
1	DEWERT Locking Device	Locking function
2	DEWERT Handset	Version depends on application range (e.g.: IPROXX ^{® 1)})
3 - 6	DEWERT Slave Drive	e. g. MEGAMAT, MEGAMAT 2 ...
8	DEWERT Control Unit	Drive control unit (e.g.: MCL,...)

1) without integral Locking Device

7. Trouble-shooter's Guide to Detect and Eliminate Faults/Errors

The following table has been developed to help you detect and eliminate common faults and errors. If you come across a fault/error that is not listed here, please contact your supplier. All of these faults/errors may only be inspected and rectified by specialists holding the qualifications as described on page 3.

Problem	Possible Cause	Remedy
Locking Device or drive system without function	<ul style="list-style-type: none"> - Locking Device or drive system defective - No supply voltage 	<ul style="list-style-type: none"> - Contact your supplier/ dealer
No movements/ adjustments can be carried out.	<ul style="list-style-type: none"> - Locking Device is blocked - Feeder cable (mains and/or Slave Drives/Locking Device) interrupted 	<ul style="list-style-type: none"> - Check switch position on the Locking Device and, if necessary, release. - Check the feeder cable, if necessary restoring contact
Acoustic signal (CARE/HOSP)	<ul style="list-style-type: none"> - Locking Device is blocked 	<ul style="list-style-type: none"> - Check switch position on the Locking Device and, if necessary, release.

Locking Device

9. Cleaning

The cleaning of the **Locking Device** has been made even easier thanks to the large number of flat surfaces.

The **Locking Device** should be cleaned with a proprietary cleaning agent suitable for **polyamide 6** using a damp cloth. Always note the instructions provided by the manufacturer of the respective cleaning agent used.

Before cleaning, always pull out the mains plug!

Never clean the Locking Device in a wash tunnel or with a **high-pressure cleaner nor spray liquids** onto it. You risk damaging the equipment!

When **cleaning** take care not to damage the control unit **mains cable!**

Do not use **any solvents** such as **benzene, alcohol** or similar substances.

10. Disposal

The **Locking Device** contains electronic components, cables, metal, plastic etc. The **Locking Device** may not be disposed of with the normal household waste and it should be disposed of in accordance with the environmental regulations applicable in the respective country. Information on this subject can also be obtained from:

Federal Association for
Disposal Management BDE
Behrenstraße 29
D-10117 Berlin
Germany
Phone: +49 (0) 30-59 00 33 5-0
www.bde-berlin.de

Notes on environmental directives and legislation

- The product complies with the European Directive 2002 / 95 / EC (RoHS as of 01.07.2006).
- The product is not subject to the European Directive 2002 / 96 / EC (WEEE) and its amendment EU Directive 2003 / 108 / EC.

The Locking Device may not be disposed of with the normal household waste!



EC Manufacturer's Declaration

According to Appendix II B of the EC Machines Directive (98/37/EC)

The Manufacturer:

DEWERT
Antriebs- und Systemtechnik GmbH
Weststr. 1
32278 Kirchlengern
Germany

hereby declares that the system described below

DEWERT Drive System with DEWERT Operating Element Locking Device

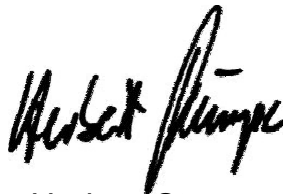
is not a ready-to-use machine in keeping with the EC Machines Directive and therefore does not fully comply with the requirements of the directive!

This machine may not be put into operation until conformity with the above directive of the entire machine, into which it is to be installed, has been declared!

Partially applied harmonized standards:

EN 292-1 Safety of Machines, Basic Terminology, Methods

EN 292-2 Safety of Machines, Guiding Technical Principles



Herbert Stumpe
Mangement

Kirchlengern, 19th January 2007



A Phoenix Mecano Company

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