

## Installation Instructions for the Manufacturer of the End Product Drive Control Unit CU155



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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. With regard to the specialist information contained herein, these instructions can serve as a basis for drawing up the instructions for the end products.

**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.

**To supply the voltage, use only a DEWERT DC power supply!**

The DEWERT DC power supply includes an earth-free electric circuit which is isolated from the supply voltage via double or reinforced insulation.

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 - these may 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 **CU155** drive control unit is **designed** for installing in end products...

- to control motorised adjustment devices in movable furniture components (e.g. beds, chairs...)

The **CU155** drive control unit 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 beds intended for cleaning in wash tunnels
- in applications in which inadvertent movements are not prevented by appropriate technical measures.

## 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 **CU155** drive control unit 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 control unit with DEWERT DC power supply meets the safety objectives of the EC Directives concerning **Low voltage** and **Electromagnetic Compatibility (EMC)**.

The **CU155** drive control unit 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**.

## Caution!

### For your own safety!

**Shutdown in an emergency** is achieved by **pulling out the mains plug from the DC power supply!** 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 main's connection lead and connection cables to mechanical loads. Regular visual checks of the mains connection lead should be carried out at short-term intervals and in particular each time it has been subjected to a mechanical load.

If the mains connection lead of the DC power supply gets damaged, it must be replaced in order to prevent hazards. **Work to and replacement of the mains connection lead 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 **CU155** drive control unit is intended for the German market and complies with the Law applicable in Germany in implementation of relevant EC Directives.

### a) Product versions

To operate the drive controls, **further components, such as from 1 to 4 slave drives, (5 slave drives optional) handset ...** are required.

### Reverter-Plug

The optionally available reverter-plug (see page 7) allows flexible adjustment of the motor's running direction to match the application. The controls and handset can therefore be standardized.

### Connectable components

	Slave Drive	Handset	Voltage Supply
<b>CU155</b>	MEGAMAT <sup>1)</sup> MULTITRAXX <sup>1)</sup> MULTIMAT B23 <sup>1)</sup> ⋮	COMFORT ⋮	DC power supply

<sup>1)</sup> with or without reverter-plug

**b) Technical data**

Supply voltage.....:	24 V DC
Permissible total current input.....:	max. 8.0 A (ID 2min./18min.)
Fuse.....:	T 6.3A - T 8.0 A (depending on version)
Operating mode <sup>1)</sup> .....:	intermittent duty ID 2 min./18 min.
Protection classification.....:	III
Variations.....:	various control functions for up to 5 drives
Protection category.....:	IP20 (optional IP44)
Colours.....:	black

**Dimensions and weights**

Length x width x height of the control system...:	157 x 128.5 x 44 mm
Weight.....:	approx. 0.3 kg

**Ambient and storage conditions**

Room temperature.....:	from +10° to +40° C
Rel. humidity.....:	from 30% to 75%
Barometric pressure.....:	from 700 hPa to 1060 hPa

1) Operating mode = **intermittent duty ID 2 min./18 min.**, i.e. run for 2 min. max. under rated load, then a rest period of 18 min. must be observed, otherwise operational **failure could occur!**

## 4. Fitting

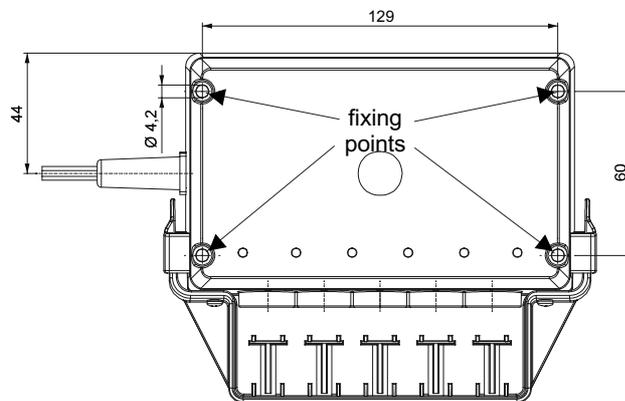
### Caution!

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

Included in the supply package is the **drive control unit** and **depending on the order a DC power supply, a handset** and up one to five **slave drives**. The components are prewired and ready to plug in.

#### a) Installation

The **CU155** drive control unit can be screwed to the application at the 4 fixing points using suitable screws (e.g. M4x50 screws). The surface onto which the controls are mounted **must** be level and **flat**. It is important in the application that no mechanical forces (e.g. torsional forces etc.) are brought to bear on the drive controls or casing parts. Such forces can bring about damage (e.g. cracks) to the casing parts.



#### b) Electrical connection

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

When routing the cables make sure that they

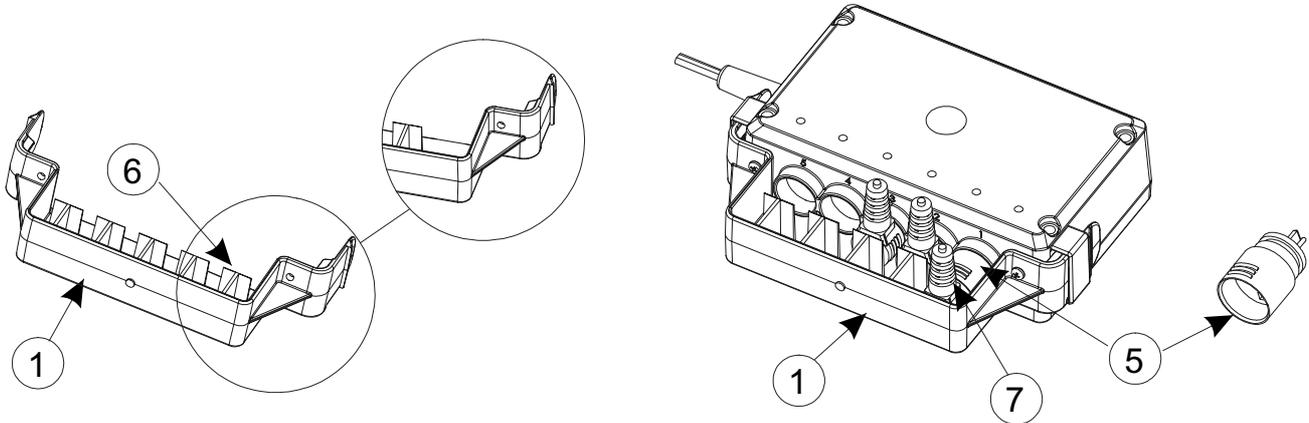
- cannot get entangled or trapped,
- are not subjected to mechanical loads (i.e. do not pull, apply pressure or bend),
- cannot get damaged in any other way.

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

First connect the **slave drives and controls**, as shown (see page 11). Make sure that any sockets not being used are sealed off with **blind plugs**, - otherwise the protection category is not guaranteed. Do not insert the mains plug of the DEWERT DC power supply until all the components have been connected to the **CU155** control unit. Afterwards fit the plug pull-out safeguard (see page 7).

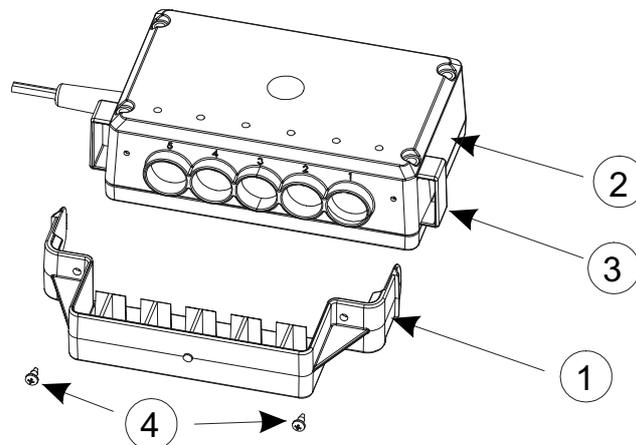
### c) Fitting the reverter-plug

In order to fit the **reverter-plug (5)**, a **fin (6)** must be broken off the **plug pull-out safeguard (1)** at the relevant socket. This is easy to do by hand. The **motor cable plug (7)** is then inserted into the **reverter-plug (5)** which in turn is inserted into the corresponding socket of the control system. The plug then sits at the front of the **plug pull-out protection (1)**.



### d) Fitting the plug pull-out protection

Fit the **plug pull-out protection (1)** to the **drive control unit (2)** by allowing it to engage into the **guides (3)**. Additionally, it can be firmly connected to the drive control system using suitable **screws (4)** (ST 2.9 x 6.5; ISO7049).



## Caution! For your own safety!

There is a **risk of sustaining injury** by getting trapped if the mechanical connections between the fitting and the drive system are loosened.

### e) Dismantling

Operate the application to travel to the starting position and disconnect the drive system from the mains voltage, then the drive control unit from the DEWERT DC power supply. Pull-off the **plug pull-out protection (1)**, take this off first and then the cables from the respective sockets. Loosen the retaining screws - the drive control system can now be removed from the application.

## 5. Operation

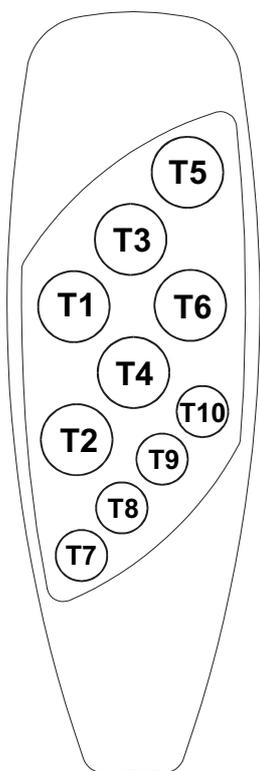
For drawing up the Operating Instructions for the end product, you can use the specialist information described herein. Please bear in mind that these instructions are intended for you as a specialist and not for the possibly non-professional operator of the end product.

### Attention!

- The electric adjustment drive is not intended to be used by small children or the unsupervised infirm.
- The electric adjustment drive is not a toy for children to play with.

#### a) Handset (example)

The handset (COMFORT type) can be equipped with up to 10 adjustment keys. The control elements are assigned as follows:



Example: COMFORT with 10 adjustment keys

Key	Function
T1	Motor 1 up
T2	Motor 1 down
T3	Motor 1 + 2 (Reset up)
T4	Motor 1 + 2 (Reset down)
T5	Motor 2 up
T6	Motor 2 down
T7	Motor 3 up
T8	Motor 3 down
T9	Motor 4 up
T10	Motor 4 down

## 6. Maintenance and Repairs

At regular intervals carry out the inspections in accordance with the BGV A2 (Instruction of the Professional Trade Association). The inspections must be performed by an electrical specialist.

The recommended inspection period in accordance with the BGV A2 is: **6 months**.

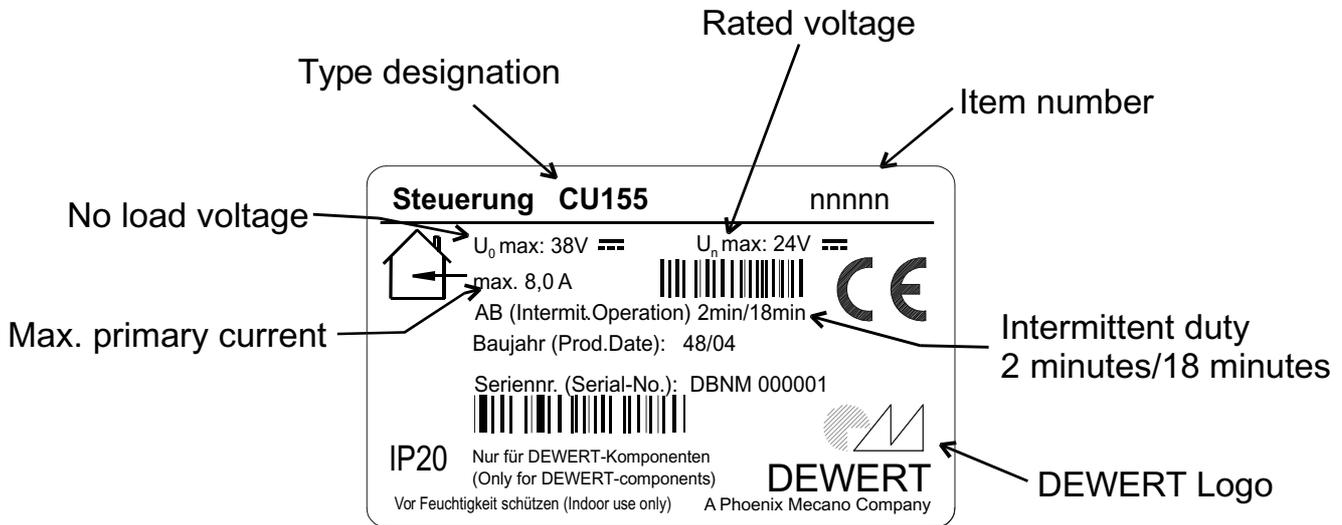
### a) Checks

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 for signs of pinching and shearing-off. Also check the strain relief with kink protection, in particular after each case of mechanical loading.
- **Regular checks of the protective conductor resistance and leakage currents (by a specialist)**

## 7. Type Plate and Seal

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



### Graphical Symbols



Conformity marks

IP20

Protection category



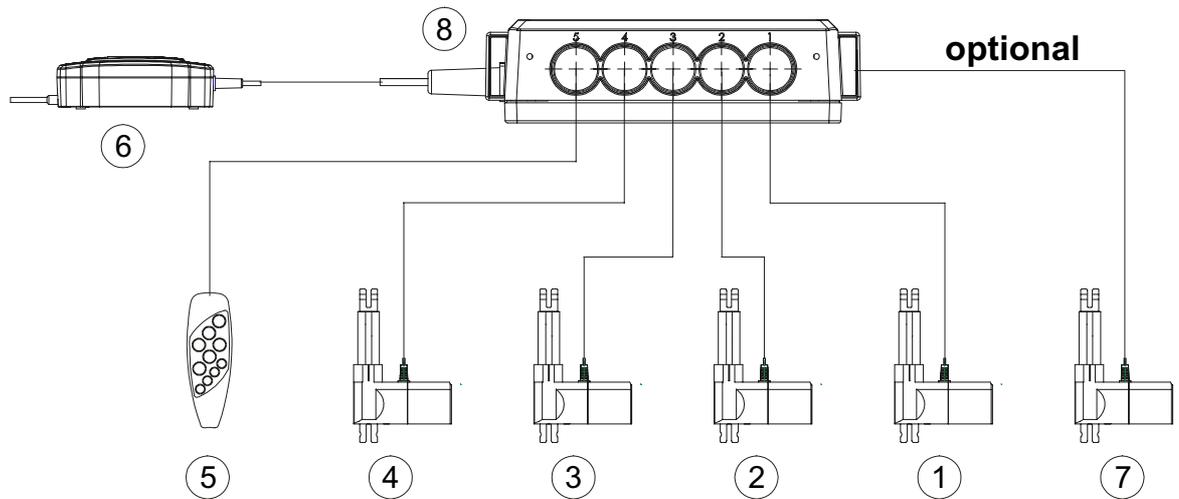
Use in dry rooms only



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 system has been altered or tampered with. The drive may only be opened by specialist personnel holding the qualifications as described on page 3.

## 8. Design of the CU155 Drive Control Unit

Example: CU155 with all additional equipment



**Only connect the components as shown !  
This can otherwise result in damage to the drive controls!**

Pos.	Part Designation	Description
1 - 4	DEWERT slave drive	e.g. MEGAMAT, MULTITRAXX ...
5	DEWERT handset	e.g. COMFORT
6	DEWERT DC power supply	Voltage supply
7	DEWERT slave drive (optional)	e.g. MEGAMAT, MULTITRAXX ...
8	DEWERT Cu155	Drive control unit

## 9. 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.

<b>Problem</b>	<b>Possible Cause</b>	<b>Remedy</b>
Handset or drive system without function	<ul style="list-style-type: none"> <li>- Handset or drive system defective</li> <li>- No supply voltage</li> </ul>	<ul style="list-style-type: none"> <li>- Contact your supplier/dealer</li> <li>- Connect to mains</li> </ul>
Drives suddenly no longer respond, no movement takes place	<ul style="list-style-type: none"> <li>- Thermoswitch on transformer or in the DEWERT controls has possibly been triggered</li> <li>- Temperature fuse in transformer has possibly been triggered</li> <li>- Instrument fuse has possibly been triggered</li> <li>- Lead (mains and/or handset/ slave drives) interrupted</li> <li>- No supply voltage</li> </ul>	<ul style="list-style-type: none"> <li>- Leave the drive system in the rest position for approx. 20-30 minutes</li> <li>- Contact your supplier/dealer</li> <li>- Check the lead, if necessary restoring contact</li> </ul>
When handset is activated control unit does not react adequately and shows malfunction	<ul style="list-style-type: none"> <li>- Handset or drive system defective</li> </ul>	<ul style="list-style-type: none"> <li>- Contact your supplier/dealer</li> </ul>

## 10. Cleaning

The **CU155** drive control unit has been designed to facilitate cleaning for the user, and this has been made even easier thanks to the large number of flat surfaces.

The **CU155** drive control unit should be cleaned with a proprietary cleaning agent suitable for **ABS** 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 CU155 drive control unit in a wash tunnel or with a high-pressure cleaner nor spray liquids onto it.** You otherwise risk damaging the equipment!

When **cleaning**, take care not to **damage** the **connection lead!**

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

## 11. Disposal

The **CU155** drive control unit contains electronic components, cables, metal, plastic etc. This system 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  
Schönhauser Str. 3  
51118 Cologne  
Germany  
Phone: +49(0)2 21/9 34 70 0-0

## EC Manufacturer's Declaration

In accordance with Annex II B of the EC Machinery Directive (98/37/EEC)

the Manufacturer

**DEWERT**

**Antriebs- und Systemtechnik GmbH**

**Weststr. 1**

**32278 Kirchlengern**

**Germany**

hereby declares that the drive system described below

**CU155 control unit**

**with DEWERT slave drive and  
DEWERT accessory components**

is not a ready-to-use machine in accordance with the EC Machinery 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



Kirchlengern, 14th July 2006

Herbert Stumpe  
Management

## EC Declarations

### EC Declaration of Conformity

in accordance with Annex I of the EC Directive on Electromagnetic Compatibility 89/336/EEC, in accordance with Annex III of the EC Low-Voltage Directive 73/23/EEC

The Manufacturer:

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

hereby declares that the Drive System described below

**CU155 control unit**      **with DEWERT slave drive and**  
**DEWERT accessory components**

satisfies the following EC Directives:

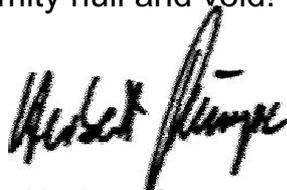
**Directive on Electromagnetic Compatibility 89/336/EEC**  
**(last amended by Directive 93/68/EEC)**

**Low-Voltage Directive 73/23/EEC**  
**(last amended by Directive 93/68/EEC)**

Applied Standards:

**EN 60335-1**  
**EN 55014-1**  
**EN 55014-2**  
**EN 61000-3-2**  
**EN 61000-3-3**

Constructional changes which affect the technical data stated in the Installation Instructions as well as the designated use, in other words which alter the drive system to a significant extent, render this Declaration of Conformity null and void!



Kirchlengern, 14th July 2006

Herbert Stumpe  
Management

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