



MC10 Control Unit

Installation Instructions

(Translation of the original installation instructions)

Foreword

Document revision history

Version	Date	Modification, change
(-)	06/10	First release
(a)	10/10	Technical specifications
(b)	02/11	Temperature monitoring
(c)	09/11	Mounting to the end product
(d)	03/20	Edition II
(e)	03/20	RoHS, toggle
7.0	04/20	Edition III

Disclaimer and exclusion of liability

DewertOkin is not responsible for damage resulting from:

- failure to observe these instructions,
- changes made to this product which have not been approved by DewertOkin, or
- the use of replacement parts which have not been approved or manufactured by DewertOkin.

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Creation of a complete operating instruction manual for the entire end product

These instructions are only intended to be used by the end-product manufacturer. They should not be given to the operator of the end product. The factual information contained within may be used as a basis when creating the end-product manual.

The warning and danger notices are best suited for use in the end product's manual. However, it is not sufficient to simply follow these notices. You should also carry out an internal risk assessment for your end product. This can then be used as the basis for the safety notices in your manual.

Usage in medical products

The MC10 control unit is not a medical product. If used in a medical end product, you (the end manufacturer) are obliged to ensure compliance with EC directives and to ensure that other pertinent medical product regulations are maintained.

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1. General Information

1.1 Configurations

The MC10 control unit is available in different versions: with and without the designation CARE or HOSP. The "Possible Combinations" Chapter describes the different device combinations that are available.

1.2 About these installation instructions

In order to install the MC10 control unit successfully and safely in the end product, these installation instructions must be observed. These instructions are not an operating manual for the end product.

These instructions will help you to minimize danger, repair costs and down times. They will also help you to maximize the reliability and lifespan of the end product.

	CAUTION
<p>The notices in these instructions must be followed! Following the guidelines during installation and connection procedures will help to minimize:</p> <ul style="list-style-type: none">• the risk of accident and injury, and• damage to the MC10 control unit or the end product.	

These installation instructions have been written with due care and attention. However, we cannot guarantee that the data, images and drawings are complete and correct nor do we accept any liability for the information contained therein, unless required by law.

- We reserve the right to make unannounced technical changes in the course of our continual product improvement process!

1.3 Conventions used

Notices which do not relate to safety are indicated in these instructions with a symbol:

- Triangular notice symbol

Explanations of warning notices

	WARNING
WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.	

	CAUTION
CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.	

	NOTICE
NOTICE is used to address practices which are not related to personal injury but may result in damage to the product or surroundings.	

2. Safety notices

2.1 Proper and intended usage

The MC10 control unit is intended for use

- as a control unit and power supply for the appropriate DewertOkin drive systems.
- for care purposes,
- or in hospitals.

	CAUTION <p>The MC10 control unit should only be used for the applications described above. Any other use is forbidden. Improper usage can lead to accidents or destruction of the unit. Such non-approved applications will lead immediately to the expiration of all guarantee and warranty claims on the part of the end-product manufacturer against the manufacturer.</p>
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2.1.1 Improper usage

Be sure to follow the notices below concerning improper usage. You should include them in your product manual in order to inform the users of your end product.

	WARNING <p>The MC10 control unit should not be used:</p> <ul style="list-style-type: none"> • in any environment where combustible or explosive gases or vapours (e.g., anaesthesiology) may be present, • in the proximity of open fires or other heat sources (such as furnaces, ovens or direct sunlight), • as a power source for toys or games, • in any application that will be cleaned with an automated washing system, • in a moist environment, or • outdoors.
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	CAUTION <p>The MC10 control unit may not be operated by:</p> <ul style="list-style-type: none"> • by small children, • by frail or infirm persons without supervision, or • in the proximity of small children.
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The MC10 control unit can be used by children of 8 years and older, persons with reduced physical, sensory or mental capabilities, or persons with lack of experience or knowledge when they are supervised or instructed concerning the safe use of the device and when they understand the resulting risks. Do not allow children to play with this device. The cleaning and user maintenance must not be carried out by children without supervision.

- You should only use spare parts which have been manufactured or approved by DewertOkin. Only these parts will guarantee a sufficient level of safety.

Using the drive systems in medical applications

This DewertOkin product meets the safety requirements described in IEC 60601-1.

We strongly recommend that the end product (including all its components) which you are manufacturing for a medical application should also comply with the safety requirements found in IEC 60601-1.

You should make sure that the mechanical movement of the motor in your end product poses no risk of injury. Conduct a risk analysis for the end product for this purpose. You should also include safety notices in the instructions for the end product and technical safeguards in your product to eliminate any risk.

2.2 Selection and qualification of personnel

This MC10 control unit should only be installed into the end product by someone who has completed training in electronic motor assembly or has equivalent qualifications.

You should only install the MC10 control unit when you are qualified to do so. Otherwise, a properly qualified person should be found for this task.

2.3 Notice on safety during operations

Basic safety rules must be followed in order to ensure that the end product can be continually operated in a safe manner. These rules must be observed while using the end product and while installing the MC10 control unit.

These rules and safety measures can be categorized as follows:

- Construction measures before the installation (refer to the "Ensuring operational reliability during installation" section in the "Installation" Chapter)
- Safety fundamentals during the installation of the MC10 control unit and during cable and wire routing (refer to the "Electrical connection" section in the "Installation" Chapter)
- Basic safety rules during operation (refer to the "Operating notes" Chapter).
- The creation of a manual for the end product which contains these and other safety rules.

2.3.1 Creating a user's manual

The manufacturer of the end product must create a manual for the users of that product. The safety notices in the end-product manual must be written based on the end product's risk assessment.

2.3.2 Electrical safety

	WARNING
Be careful; there is a risk of electrical shock! Be sure to unplug the power cord on the MC10 control unit before you begin assembly!	

The MC10 control unit should not be opened! You must properly dispose of malfunctioning or broken units.

2.4 Product labelling

2.4.1 Ratings plate

A ratings plate (or type label) on each MC10 control unit specifies the exact name and serial number of the drive. It also states the technical specifications valid for that particular control unit. The following illustration shows where the specifications are located on the ratings plate of the MC10 control unit.

- The ratings plate shown is an example; the specifications for MC10 control unit may differ from this illustration.

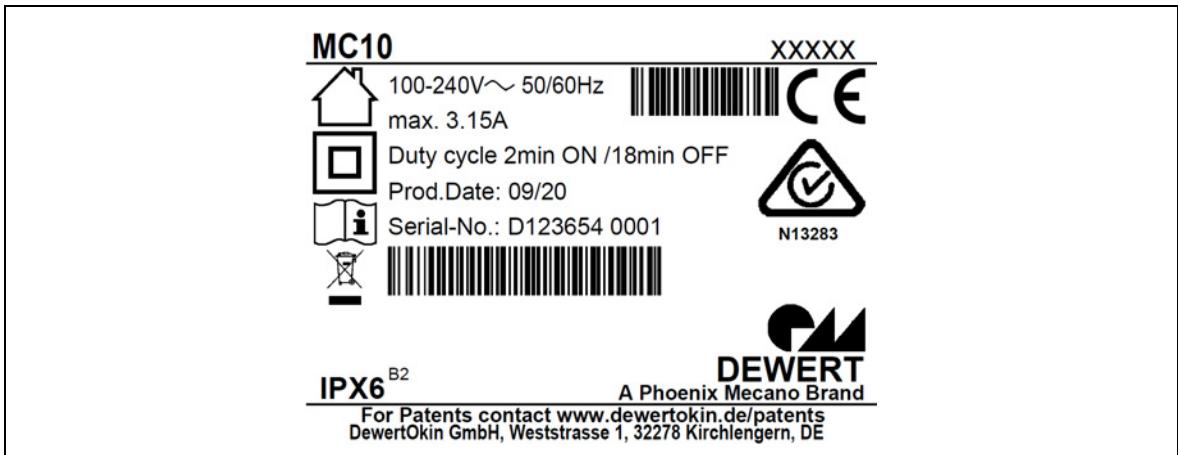


Figure 1 Ratings plate example for the MC10 control unit

MC10	Model name
xxxxx	Article number
100V – 240V ~ 50/60Hz	Input voltage and frequency
Max. 3.15A	Rating of fuse
Duty cycle: 2 min ON / 18 min OFF	Intermittent operations: 2 minutes / 18 minutes
Prod.date	Calendar week / year
Serial No.	Serial number
IPX6	Protection degree
	Use in dry rooms only!
	Protection class: II
	Follow all special disposal instructions!
	Always follow the instructions in the manual!
	Conformity mark

3. Possible combinations

The MC10 control unit can be combined with one or more drives. The following basic combinations are possible:

- a MEGAMAT MLZ drive attached to the MC10 control unit and a handset,
- a MEGAMAT MLZ drive attached to the MC10 control unit, up to two additional single drives and a handset,

Systems can be customized by combining the drive, the control unit and a handset.

DewertOkin has separate system instruction manuals containing the additional information and instructions needed for these systems.

3.1 Layout of system connections

Refer to the sticker on the control unit for details about layout and positioning of the connections. The sticker is located above the sockets. It indicates the proper type of connections. The layout of the connection scheme is individual and depends on the system specifications. Figure 2 is only an example and shows you where the label is attached.

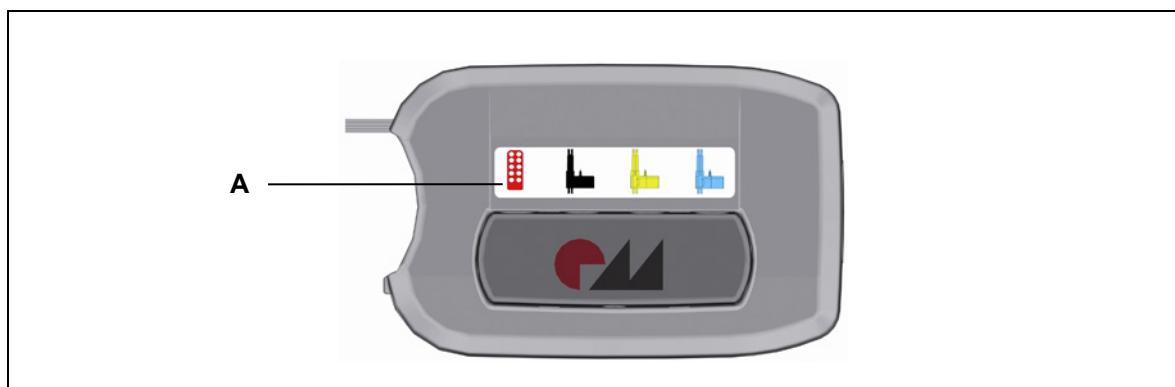


Figure 2 An illustration of where the connection layout sticker is positioned on the control unit

A Layout of connections

A



NOTICE

Only connect the components according to the specifications found on the sticker on the control unit. Any other arrangement of connections may damage the control unit.

4. Description

The MC10 control unit is a control unit and power supply for one or more DewertOkin drives. A pluggable power cord is used to connect the MC10 control unit to the mains power supply. The MC10 control unit has a non-referenced (unearthed) circuit which is separated from the supply voltage by means of doubled reinforced insulation.

- We reserve the right to make unannounced technical changes in the course of our continual product improvement process!

4.1 Components

The housing of the MC10 control unit has a connection for the power feed-in and connections for the drives and handset. The connection for the drive/handset is fitted with a mechanism to guard against accidental unplugging. The MC10 control unit can be plugged into a MEGAMAT MLZ drive.

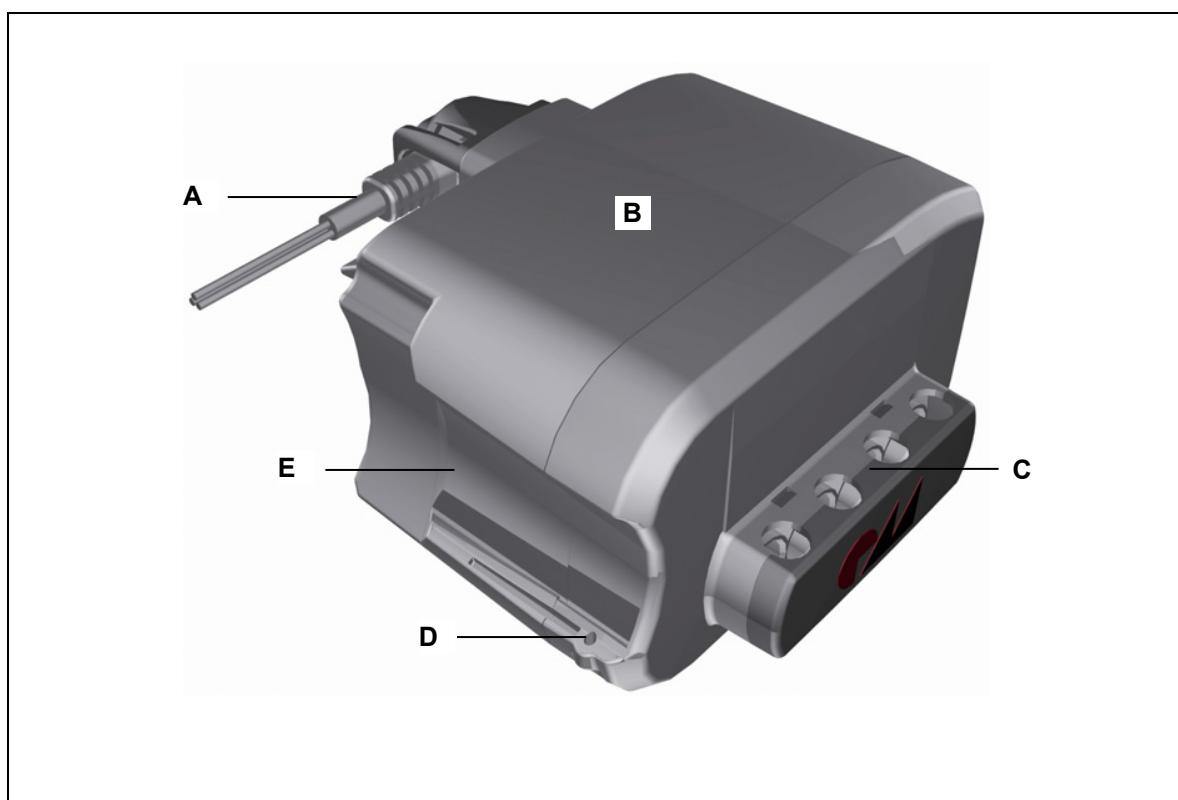


Figure 3 Components for the MC10 control unit

- | | | | |
|----------|--|----------|---|
| A | Power supply via pluggable power cord | B | MC10 control unit |
| C | Connection sockets for drives and handset
with mechanism to protect again pulling out | D | Option for screwing to the drive
MEGAMAT MLZ |
| E | Push-in profile for one drive
MEGAMAT MLZ | | |

4.1.1 Mains power supply connection

	WARNING
Please follow these operating instructions carefully. You could be injured by fire or electrical shock if you do not follow these assembly instructions.	

The appropriate power cable is included, depending on the regional version (USA, continental Europe, the UK or Australia).

	WARNING
Only use the proper power cable that is permitted in your country. Be sure to use the correct plug shape (refer to).	

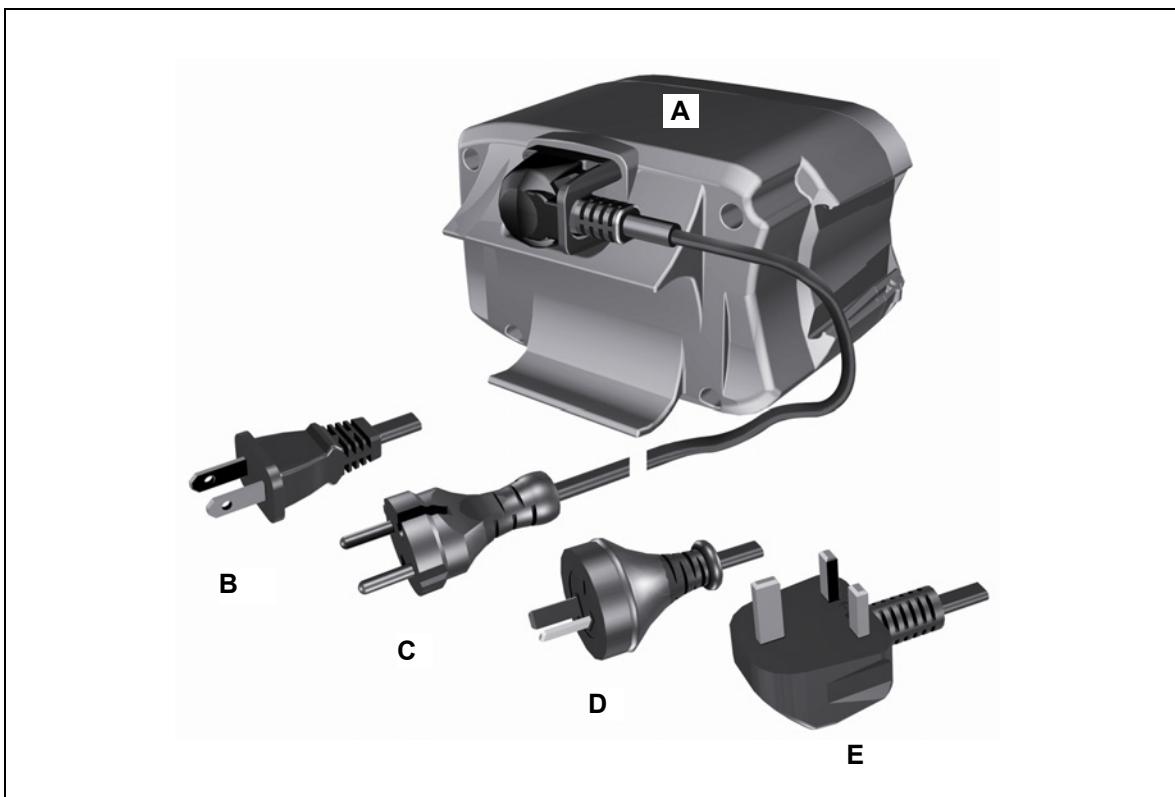


Figure 4 Power cord, regional variants

A MC10 control unit

B Power plug (USA version)

C Power plug (German version)

D Power plug (Australian version)

E Power plug (United Kingdom version)

5. Technical specifications

Mains power supply connection	100 – 240V AC, 50/60Hz
Current consumption at nominal operations	Max. 3.15 A (depending on input voltage)
Mode of operations ¹	Intermittent duty 2 minutes /18 minutes
Protection class	II
Permitted current consumption of all additional drives ²	Max. 4 A at 2 min./18 min. intermittent operations
Protection degree	IPX6
Colours	Refer to sales brochure
Dimensions and weight	
Length x width x height	144 mm x 151 mm x 92 mm
Higher with adapter	98 mm
Weight	Approx. 550 g
Ambient conditions for operation, storage and transport	
Transport / storage temperature	From -20 °C to +50 °C From -4 °F to +122 °F
Operating temperature	From +10 °C to +40 °C From +50 °F to +104 °F
Relative humidity	From 30% to 75%
Air pressure	From 800 hPa to 1060 hPa
Height	< 2000 m

¹⁾ Mode of operation: intermittent duty 2 minutes/18 minutes. This means that after the unit is operated with its rated load for up to two minutes it must then be paused for 18 minutes. The system can malfunction if this pause is not observed!

²⁾ No more than two drives may be operated at rated load simultaneously!

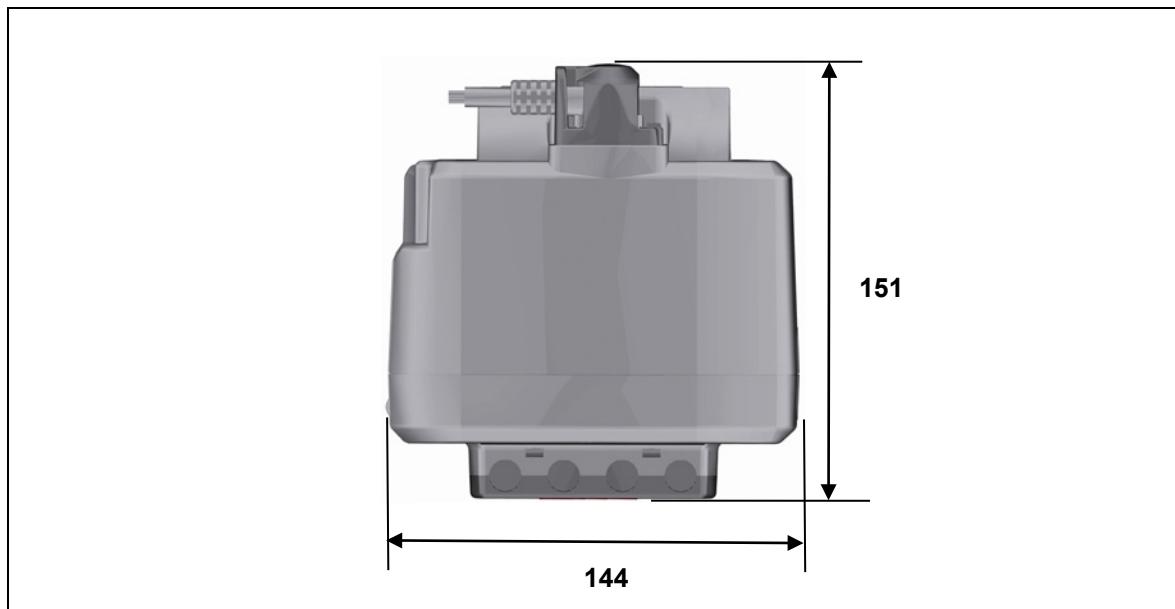


Figure 5 Dimensions of the MC10 control unit, top view (in mm)

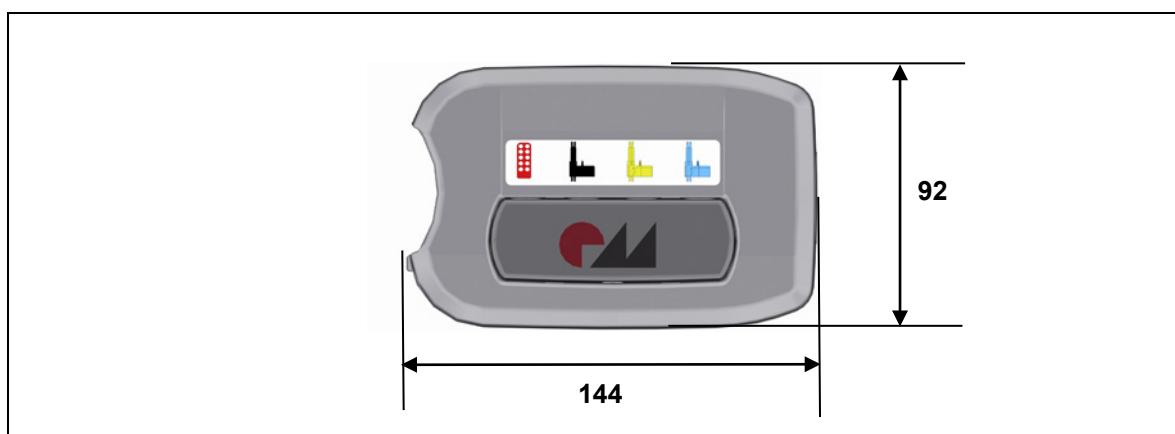


Figure 6 Dimensions of the MC10 control unit, front view (in mm)

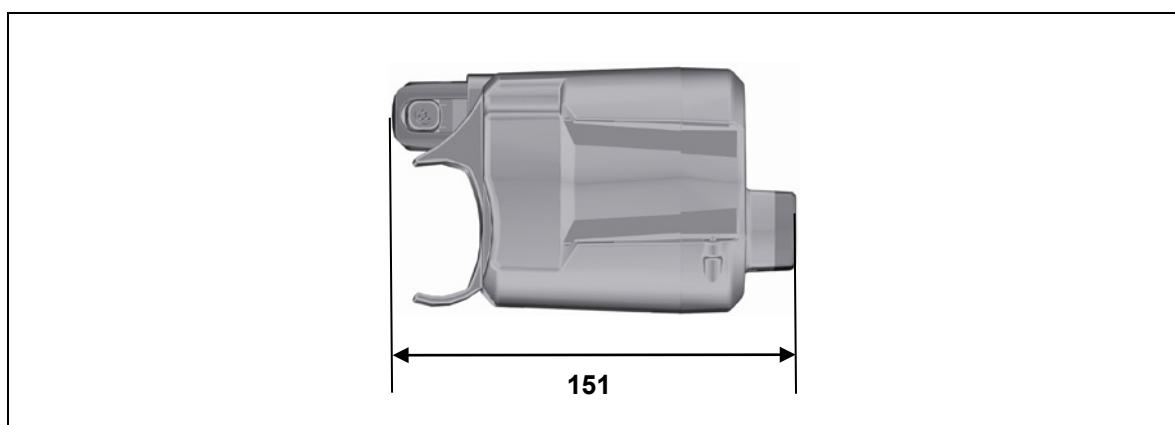


Figure 7 Dimensions of the MC10 control unit, side view (in mm)

6. Installation

6.1 Safety notices to observe during installation

Basic safety rules must be followed in order to ensure that the end product can be continually operated in a safe manner. These rules must be observed while using the end product and while installing the MC10 control unit.

6.1.1 Avoiding electrical faults

The power supply cord is designed to be connected to an outlet near the floor. Be sure to consider the length of the power cord when designing the dimensions for your application in order to minimize the associated risks.

6.1.2 Ensuring operational reliability during installation

The safety and reliability of the end product containing DewertOkin components can be ensured by using the proper construction methods as described below.

Overheating

A thermal monitoring mechanism switches the MC10 control unit off if it overheats.

	CAUTION
	<p>The MC10 control unit is equipped with a thermal monitoring mechanism that triggers when the unit overheats. If the temperature control has triggered, remove the control unit from the power supply, allow it to rest for 20 to 30 minutes and try again. If the control unit still does not function, please contact your supplier or sales agent.</p>

Installation dimensions for the MEGAMAT MLZ drive

The installation length of the MEGAMAT MLZ drive should not be less than 266 mm (installation length of MEGAMAT MLZ drive together with standard clevis). The drive or drive control unit could be mechanically damaged if the installation length is shorter than this.

Mechanical construction

A shield covering the sockets protects the connections from mechanical damage and accidental unplugging.

6.2 Installation procedure

Before installing the MC10 control unit, make sure that you are observing all of the safety notices found in the "Safety notices to observe during installation" section.

6.2.1 Mounting the MC10 control unit to the MEGAMAT MLZ drive

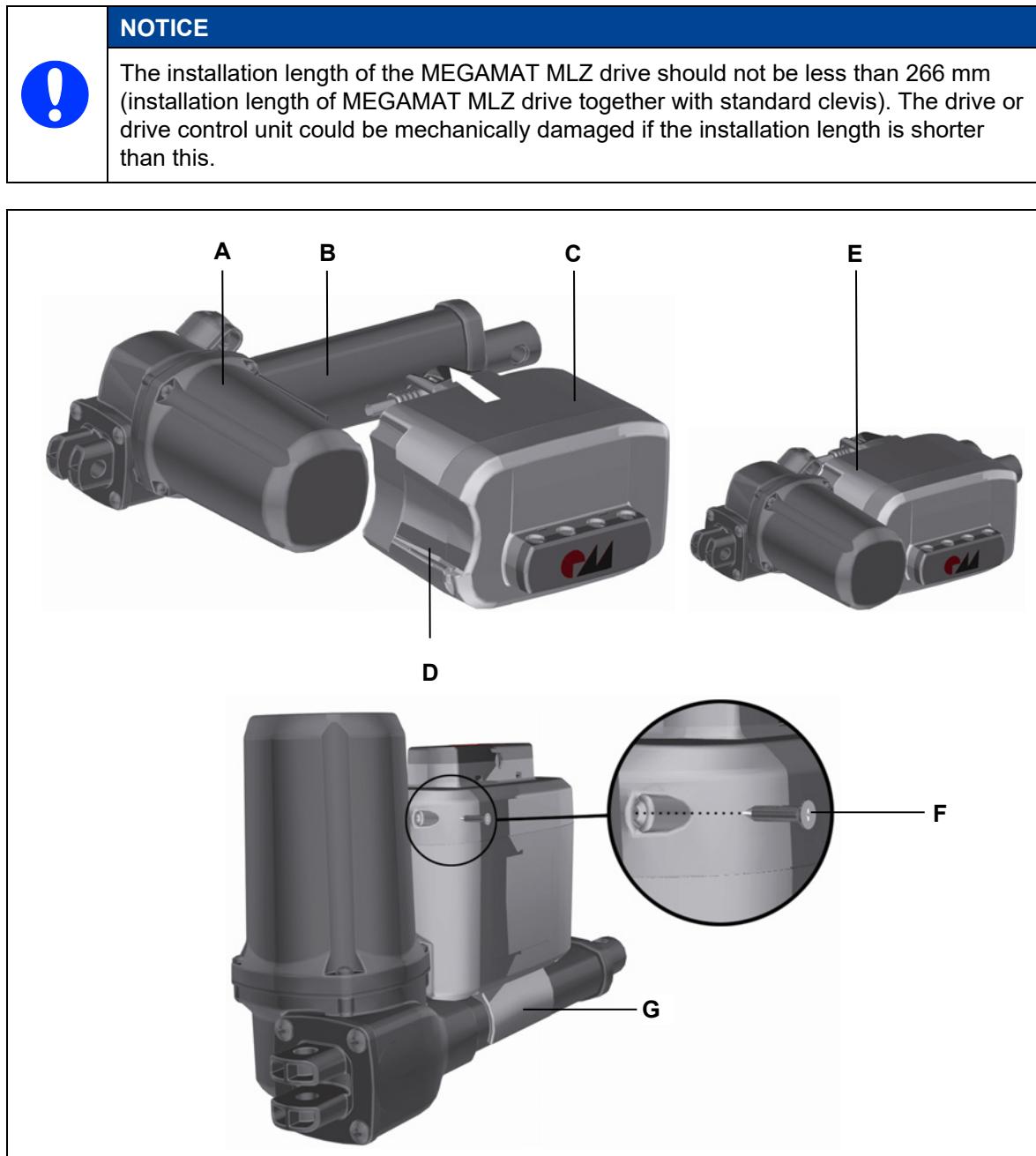


Figure 8 Installing the MC10 control unit

- | | |
|---|---|
| A MEGAMAT MLZ drive (an example) | B Guidance profile |
| C MEGAMAT MLZ control unit | D Guidance groove for the motor casing cover on the drive MEGAMAT MLZ |
| E MC10 control unit attached to the drive | F Fastening screw (3.5 mm x 13 mm) |
| G Support for guidance profile | |

The MC10 control unit is mounted by snapping it onto the MEGAMAT MLZ drive.

	CAUTION
You should only connect and disconnect the cables when they are completely disconnected from any live current!	

- 1 Push the MEGAMAT MLZ drive along the guidance groove (**D**) until the guidance profile (**B**) snaps onto the support (**G**).
- 2 A screw can also be used to secure the MEGAMAT MLZ drive to the MC10 control unit. Tighten the screw (**F**), as shown in Figure 8. Use a fastening screw with the dimensions 3.5 mm x 13 mm (ISO 7049-ST).
- 3 The drive can then be connected to the proper socket on the MC10 control unit (refer to the "Electrical connection" section).

6.2.2 Electrical connection

	CAUTION
Electrical components should be connected or disconnected only when the power supply cord is unplugged.	

	NOTICE
There is a delay after the supply voltage is applied before the device actually turns on. Wait at least 2 seconds before the initial commissioning.	

Routing the electrical cables

When routing the cables, be sure that:

- the cables cannot get jammed,
- no mechanical load (such as pulling, pushing or bending) will be put on the cables, and
- the cables cannot be damaged in any way.

Fasten all cables (especially the connecting cables) to the end product using sufficient kink prevention methods. Be sure that the design of the end product prevents the connecting cables from coming into contact with the floor during transport.

Connecting the MEGAMAT MLZ drive to the MC10 control unit

The electrical connection from the MEGAMAT MLZ drive to the MC10 control unit is made by plugging the drive plug into the MC10 control unit.

Take off the shield cover (refer to the "Opening the shield cover" section) and plug the drive plug into the proper socket. Make sure that you use the proper connection position as specified in the connection layout illustration (refer to the "Layout of system connections" section).

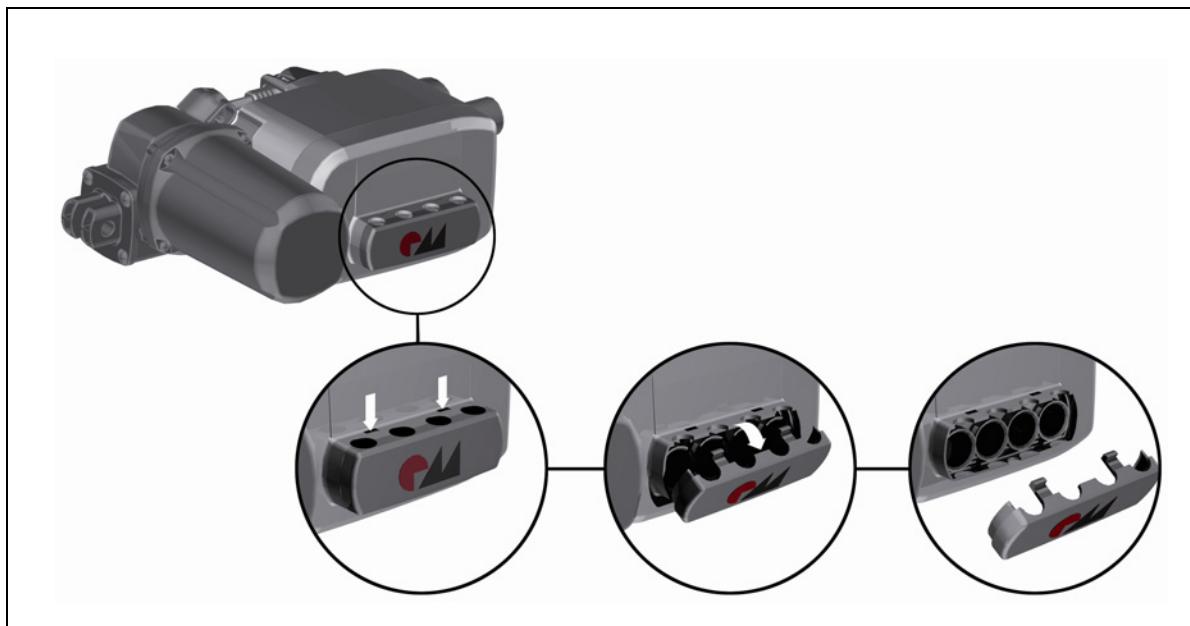
Opening the shield cover

Figure 9 Opening the shield cover on the MC10 control unit

- 1 Pull out the mains plug from the outlet.

	CAUTION
You should only connect and disconnect the cables when they are completely disconnected from any live current!	

- 2 Use a suitable tool to press both locking clips down in the notches as shown in Figure 9. At the same time, tilt the shield cover forward so that the clips come out of the notches.
- 3 Remove the shield cover.
- 4 You can now connect or disconnect a plug and socket. Be sure to use the proper socket (the assignments of plugs to sockets are shown in the connection layout diagram). (Figure 2 shows the connection positions.)

6.2.3 Connecting the pluggable power cord to the MC10 control unit

	WARNING
Please follow these operating instructions carefully. You could be injured by fire or electrical shock if you do not follow these assembly instructions.	

The appropriate power cable is included, depending on the regional version (USA, continental Europe, the UK or Australia).

	WARNING
Only use the proper power cable that is permitted in your country. Be sure to use the correct plug shape (refer to).	

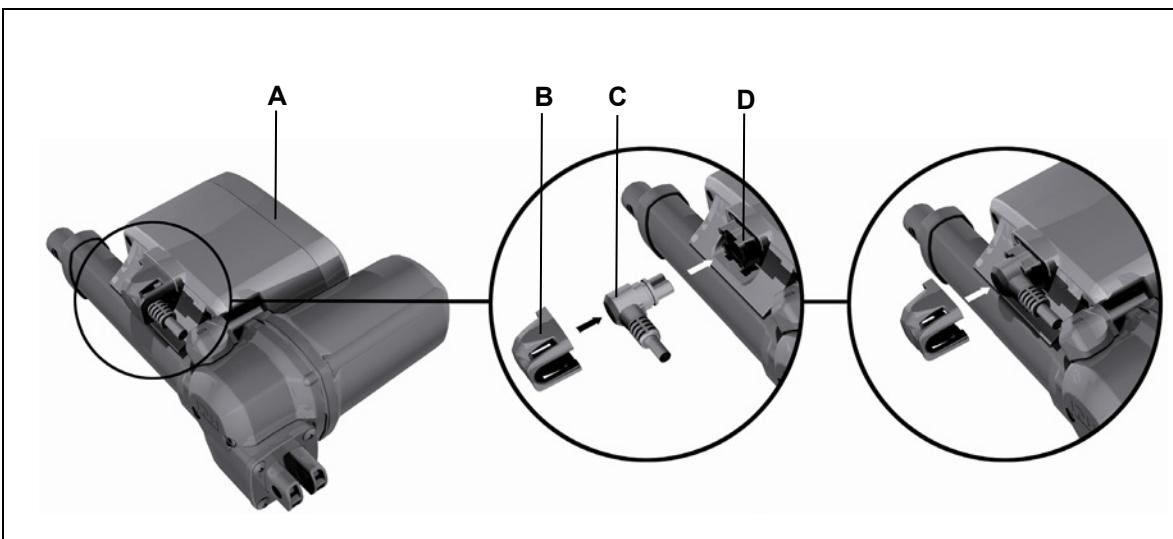


Figure 10 Connecting the pluggable power cord to the MC10 control unit

A MC10 control unit

B Snap-on cap

C Power plug

D Power socket on the MC10 control unit

The pluggable power cord should be attached to the power socket (**D**) located on the rear of the control unit.

- 1 Pull out the mains plug from the outlet.

	CAUTION
You should only connect and disconnect the cables when they are completely disconnected from any live current!	

- 2 Remove the cap (**B**) from the socket.
- 3 Plug the power plug from the power cord (**C**) into the socket.
- 4 Push the cap (**B**) onto the inserted plug until you hear the cap snap on.

After plugging the power plug into the power outlet,

	NOTICE
There is a delay after the supply voltage is applied before the device actually turns on. Wait at least 2 seconds before the initial commissioning.	

6.2.4 Disconnecting the MC10 control unit

- 1 Pull out the mains plug from the outlet.

	CAUTION
You should only connect and disconnect the cables when they are completely disconnected from any live current!	

- 2 Open and remove the shield cover (refer to Figure 9).
- 3 Disconnect all connecting cables from the MC10 control unit.

6.2.5 Optional: Mounting the control unit with the adapter

Mounting the adapter on the control unit

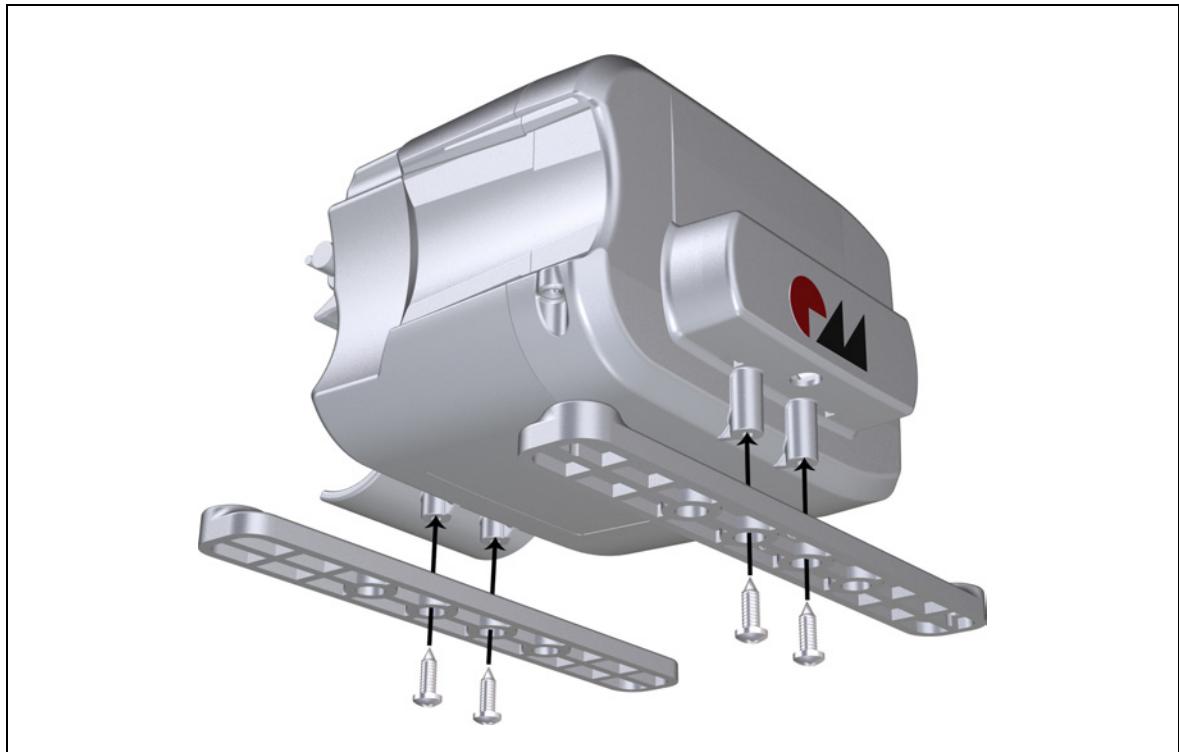


Figure 11 Mounting the adapter on the MC10 control unit

- 1 Mount the optional adapter to the control unit using four screws (according to DIN 7981: 3.9 mm diam. and 13 mm length), as shown in Figure 11.

Mounting to the end product

The MC10 control unit is screwed onto the end product by using four screws for the four mounting points (e.g. DIN 7981 screws with 4.8 mm diameter and suitable length of 6 mm plus screw-in depth).

NOTICE	
	<p>Observe the following while mounting to the end product:</p> <ul style="list-style-type: none">• The MC 10 control unit should be mounted so that it lies against its supporting material.• No mechanical forces or torsion should be exerted on it by the end product. Such forces could lead to damage (such as cracks).

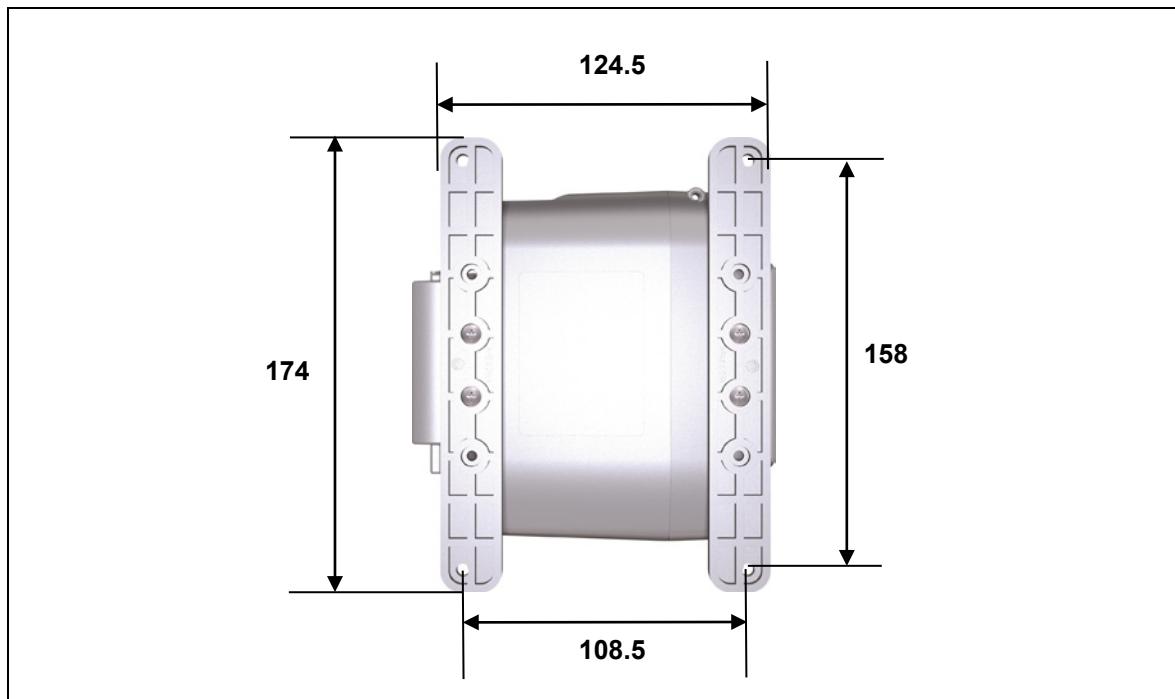


Figure 12 Mounting dimensions of the adapter. View from below (in mm)

- 1 The control unit is screwed onto the end product by using four screws for the four mounting points (e.g. DIN 7981 screws with 4.8 mm diameter and suitable length of 6 mm plus screw-in depth) as shown in Figure 13. The mounting dimensions are shown in Figure 12.



Figure 13 Attaching the MC10 control unit to the end product

7. Operating notes

The factual information contained within may be used when you are creating the end-product manual. The installation instructions do not contain all information required for the safe operation of the end product. They only describe the assembly and operation of the MC10 control unit as a partially assembled piece of machinery.

	CAUTION
When creating the operating instructions, remember that the installation instructions are intended for qualified specialists and are not for typical users of the end product.	

7.1 General information

- ▶ Only drives from DewertOkin should be connected to the MC10 control unit since they have already been verified to work together.

Delayed start-up

After plugging the power plug into the power outlet,

	NOTICE
There is a delay after the supply voltage is applied before the device actually turns on. Wait at least 2 seconds before the initial commissioning.	

Power-on time / intermittent operations

The MC10 control unit has been designed for intermittent operations. Intermittent operation is an operational mode where the drive must pause after a specified maximum period of operation (power-on time). This protects the drive from overheating. Extreme overheating can cause a malfunction.

- ▶ The ratings plate specifies the maximum power-on time and the required pause intervals.

Avoiding toggle operations

You should avoid switching from one direction of travel to the opposite direction without first stopping the motor. Make sure that you pause between motions! A pause (motor stop time) can be activated using the control keypad/handset.

	NOTICE
You should always avoid a quick change (toggling) of directions.	

Avoiding electrical risks

	WARNING
Make sure that all live (current-carrying) parts of the drive system and power supply cannot be touched. In particular, be sure that unused power and control unit connections are covered adequately.	

Power cable

	WARNING
Please follow these operating instructions carefully. You could be injured by fire or electrical shock if you do not follow these assembly instructions.	

	WARNING
Only use the proper power cable that is permitted in your country. Be sure to use the correct plug shape (refer to).	

Reducing the risk of overheating with the thermal monitor

	CAUTION
The MC10 control unit is equipped with a thermal monitoring mechanism that triggers when the unit overheats. If the temperature control has triggered, remove the control unit from the power supply, allow it to rest for 20 to 30 minutes and try again. If the control unit still does not function, please contact your supplier or sales agent.	

Avoiding overheating

	NOTICE
No more than two drives may be operated at rated load simultaneously!	

Emergency shut off of a connected drive or control unit

	CAUTION
In an emergency, disconnect the MC10 control unit's power plug in order to shut off the connected drive. The power plug must always be accessible during operations so that it is possible to shut down the drive or control unit at any time.	

Avoiding cable damage

Be sure that your operating instructions inform the user about the possible cable risks.

	CAUTION
The cables (particularly the connecting cable) should not be run over. In order to prevent injuries or damage to the drive and MC10 control unit, no mechanical strain should be placed on the cables.	

8. Troubleshooting

This chapter describes troubleshooting methods for fixing problems. If you experience an error that is not listed in this table, please contact your supplier.

	CAUTION
Only qualified specialists who have received electrician training should carry out troubleshooting and repairs.	

Problem	Possible cause	Solution
The drive or control unit is not functioning.	There is no mains supply voltage.	Connect the mains power.
	The drive or control unit is defective.	Please contact your supplier or sales agent.
The drive is suddenly not capable of movement.	The overheating protection or system protection has been triggered.	Remove the overload (change or remove the load). Allow the system to rest for 20 to 30 minutes with the mains power unplugged. If this does not resolve the problem, contact your supplier or distributor.
	The unit's fuse may have been triggered.	Please contact your supplier or sales agent.
	There is no mains supply voltage.	Connect the mains power.
A lead-in connection has been interrupted (mains power, auxiliary drive or handset).		Check the cables and reinsert them, if required.

9. Maintenance

- You should only use spare parts which have been manufactured or approved by DewertOkin. Only these parts will guarantee a sufficient level of safety.

9.1 Maintenance

Type of check	Explanation	Time interval
Check the function and safety of the electrical system.	A qualified electrician should carry out this inspection. (Refer to the "Electrical connection" section in the "Installation" Chapter.)	Periodic inspections can be carried out at intervals based on the risk assessment which you conduct for your end product.
Look over the housing periodically for any signs of damage.	Check the housing for breaks or cracks.	At least every six months.
Look over the plug-in connections and electrical access points for signs of damage.	Check that all electrical cables and connections are firmly seated and correctly positioned.	At least every six months.
Look over the cables for any signs of damage.	Check the connecting cables for pinching or shearing. Also check the strain relief and kink protection mechanisms, in particular after any mechanical load.	At least every six months.

9.2 Cleaning and care

The MC10 control unit was designed so that it would be easy to clean. Its smooth surfaces simplify the cleaning process.

NOTICE	
	Never clean the MC10 control unit in an automated washing system or with a high-pressure cleaner. Do not allow fluids to penetrate the lighting. Damage to the system could result.

- 1 Be sure to unplug the power cord on the MC10 control unit before you begin cleaning it!
- 2 Clean the MC10 control unit with a moist cloth.
- 3 Be sure that you do not damage the connecting cables during the cleaning.

NOTICE	
	Do not use a cleanser that contains benzene, alcohol or similar solvents.

10. Disposal

10.1 Packaging material

The packaging material should be sorted into recyclable components and then disposed of in accordance with the appropriate national environmental regulations (in Germany according to the recycling law KrWG from 01.06.2012; internationally according to the EU Directive 2008/98/EC (Waste Framework Directive WFD as of 12.12.2008)).

10.2 Components in the control unit

The MC10 control unit consists of electronic components, cables and metal and plastic parts. You should observe all corresponding national and regional environmental regulations when disposing of the MC10 control unit.

The disposal of the product is regulated in Germany by Elektro-G, internationally by the EU Directive 2012/19/EC (WEEE), or by any applicable national laws and regulations.



The MC10 control unit should not be disposed of with normal household waste!

EG-Konformitätserklärung

Nach Anhang IV der EMV-Richtlinie 2014/30/EU

Nach Anhang IV der EU-Niederspannungsrichtlinie 2014/35/EU

Nach Anhang VI der RoHS-Richtlinie 2011/65/EU
(inkl. Delegierte Richtlinie (EU) 2015/863)

Der Hersteller

erklärt hiermit, dass das Produkt

EU Declaration of Conformity

In compliance with Appendix IV of the EMC-Directive 2014/30/EU

In compliance with Appendix IV of the LVD-Directive 2014/35/EU

*In compliance with Appendix VI of the EU RoHS Directive 2011/65/EU
(incl. Commission delegated Directive (EU) 2015/863)*

The manufacturer

DewertOkin GmbH
Weststraße 1
32278 Kirchlengern
Deutschland - Germany

declares that the following product

MC10

die Anforderungen folgender EG-Richtlinien erfüllt:

**Richtlinie über elektromagnetische Verträglichkeit
2014/30/EU**

Niederspannungsrichtlinie 2014/35/EU

DELEGIERTE RICHTLINIE (EU) 2015/863 DER KOMMISSION vom 31. März 2015 zur Änderung von Anhang II der Richtlinie 2011/65/EU des Europäischen Parlaments und des Rates hinsichtlich der Liste der Stoffe, die Beschränkungen unterliegen.

Angewendete Normen

- EN 60335-1:2012/A11:2014
- EN 55014-1:2006/A1:2009/A2:2011
- EN 55014-2:1997/A1:2001/A2:2008
- EN 61000-3-2:2014
- EN 61000-3-3:2013
- EN 62233:2008

Konstruktive Änderungen, die Auswirkungen auf die in der Montageanleitung angegebenen technischen Daten und den bestimmungsgemäßen Gebrauch haben, das Produkt also wesentlich verändern, machen diese Konformitätserklärung ungültig!

meets the requirements of the following EU directives:

Electromagnetic Compatibility Directive 2014/30/EU

Low Voltage Directive 2014/35/EU

COMMISSION DELEGATED DIRECTIVE (EU) 2015/863 of 31 March 2015 amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council as regards the list of restricted substances.

Applied standards:

This declaration of conformity is no longer valid if constructional changes are made which significantly change the drive system (i.e., which influence the technical specifications found in the instructions or the intended use)!



Dr.-Ing. Josef G. Groß
Geschäftsführer / Managing Director

Kirchlengern, Germany 25 February 2020

Additional information

MC10 Control Unit

The following standards and norms were used in the versions with at least IPX4 and higher - in according to:

- EN 60601-1:2006 + A1:2013, IEC 60601-1:2005 + A1:2012 (short description: Edition 3.1), Medical electrical equipment.
- EN 60601-1-2:2015, IEC 60601-1-2:2014 (short description: Edition 4.0), EMC

IEC/EN60601-1, Section 4	General requirements
IEC/EN60601-1, Section 6	Classification
IEC/EN60601-1, Section 7.1	Labelling – general
IEC/EN60601-1, Section 7.2	Labelling – inscriptions
IEC/EN60601-1, Abschnitt 8	Protection against electrical danger, leakage currents
IEC/EN60601-1, Section 11.1	Overheating protection
IEC/EN60601-1, Section 11.2	Fire prevention
IEC/EN60601-1, Section 11.3	Design requirements for fire-resistant housing
IEC/EN60601-1, Section 13	Dangerous situations and error conditions
IEC/EN60601-1, Section 15.3	Mechanical attachment
IEC/EN60601-1, Section 15.4	Components and general construction
IEC/EN60601-1, Section 17	Electromagnetic compatibility

Additional information

MC10 Control Unit

The following standards and norms were used in the versions with at least IPX4 and higher - in according to:

- EN 60601-2-52, IEC 60601-2-52, (Particular requirements for the safety and essential performance of medical beds)

IEC/EN 60601-2-52, Section 201.6.2	Protection against electrical shock: Protection class II
IEC/EN 60601-2-52, Section 201.7.6.3	Control panel symbols (depending on model, customer requirements)
IEC/EN 60601-2-52, Section 201.8.11.3.2	EPR-Power supply lead: only ≥ 2.5 m length
IEC/EN 60601-2-52, Section 201.9.2.2.5	Continuous operations: Control unit only with button
IEC/EN 60601-2-52, Section 201.9.2.3.1	Unintentional movement: Prevented by means of a locking mechanism (such as Control box, Supervisor, IPROXX® SE, IPROXX®, or Meditouch)
IEC/EN 60601-2-52, Section 201.9.6.2.1	Noise level: ≤ 65 dB(A)
IEC/EN 60601-2-52, Section 201.11.1.1	Temperature
IEC/EN 60601-2-52, Section 201.11.6.5.101	Protection against water ingress: only for \geq IPX4
IEC/EN 60601-2-52, Section 201.11.8	Loss of power: e.g. use of a battery, depending on customer requirements
IEC/EN 60601-2-52, Section 201.13.1.4	Special mechanical risks, depending on customer requirements: Prevented by means of a locking mechanism (such as Control box, Supervisor, IPROXX® SE, IPROXX®, or Meditouch)
IEC/EN 60601-2-52, Section 201.15.3.4.1	Mechanical strength – handset (e.g. IPROXX®)
IEC/EN 60601-2-52, Section 201.15.4.4	Displays: Ready indicator is not required
IEC/EN 60601-2-52, Section BB.3.3.3	Dimensions (depending on version and customer requirements) – handset (e.g. IPROXX®)
IEC/EN 60601-2-52, Section BB.3.4.1	Operational forces – handset (e.g. IPROXX®)



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