

Installation Instructions
for the
Manufacturer
of the End Product
FOOT SWITCH
FP2 - FP4 - FP6



FOOT SWITCH FP

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General Information

In the following Installation Instructions the **FOOT SWITCH FP2/FP4/FP6** are described under the code designation **FOOT SWITCH**.

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 on installing or connecting the system which could result in...

- **Injury and accidents as well as**
- **damage** to the drive system or the end product,
- don't use silicone materials in the proximity of the micro switches.

Only use DEWERT drive control units!

The DEWERT drive control units contain an earth-free electric circuit which is insulated 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 **FOOT SWITCH FP** is **designed** for connecting to a DEWERT drive system (see Installation Instructions supplied with the DEWERT drive system) to allow motorized adjustment of ...

- power-operated beds (range of application EN1970)
- power-operated beds (range of application EN 60601-2-38)
- power-operated furniture applications

The **FOOT SWITCH FP** is **not intended for use** ...

- in the proximity **high-frequency surgical equipment** and **defibrillators**,
- in operating theatres (for this purpose IPX8 is required)
- in an environment where **inflammable** 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
- and applications in which inadvertent movements are not prevented by appropriate technical measures.

Caution!

When used in the hospital or care sector, only the standards expressly stated in the additional information (see page 17) have been correspondingly applied. In as far as standards/requirements to the end product must take additional measures to ensure that these are met.

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 DEWERT component, **FOOT SWITCH FP**, together with controls and drive, is a **machine not ready for use** in accordance with the EC Machinery Directive. In other words, you may not put this drive system into operation until you have met the **safety objectives** of the Machinery Directive and issued a corresponding **Declaration of Conformity**!

The **FOOT SWITCH FP** together with the DEWERT drive system meets the safety objectives of the EC Directives concerning "**Low Voltage**" and "**Electromagnetic Compatibility (EMC)**".

FOOT SWITCH FP

The **FOOT SWITCH FP** 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 HOSP and CARE versions, 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 Electro medical Equipment
EN 60601-1-2	Electromagnetic Compatibility of Electro medical Equipment
EN 60601-2-38	Safety of Hospital Beds
EN 1970	Adjustable Beds for the Disabled

Caution!

For your own safety!

Please ensure when designing your applications that any inadvertent actuation cannot prove harmful or hazardous. If necessary, appropriate technical measures must be introduced to prevent any functions which, as a result of inadvertent actuation, could prove harmful or hazardous.

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

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 **FOOT SWITCH FP** is intended for the German market and complies with the Law applicable in Germany in implementation of relevant EC Directives.

a) Product versions

To put the **FOOT SWITCH FP** into operation, **further components, e.g. drive controls, main drive (e.g. DUOMAT...)** Are required.

Version	Possible components in CARE(L)/HOSP(L) versions	Further DEWERT relay controls
FP2¹⁾; FP4²⁾FP4³⁾	SG/S-AG/SGAG MCL MBXL DUOMAT 7 ⋮	MBL MBK CU155 ⋮

b) Standard construction

- Protection category: IP44 (optional IP66)
- Colour: housing grey; pedal black
- Pedals with pimples, non-slip surface
- Section for symbols on the pedal
- Function LED
- Ridge as foot rest
- Section for an individual customer label

¹⁾ FOOT SWITCH with 2 pedals

²⁾ FOOT SWITCH with 4 pedals

³⁾ FOOT SWITCH with 6 pedals

FOOT SWITCH FP

c) Technical data (standard)

Rated voltage.....	24 V DC
Contact rating.....	max. 0.2A
Protection classification.....	III
Variations.....	FP2/FP4
Protection category.....	IP44; (optional IP66)
Colours.....	housing grey; pedal black

Dimensions and weights of the FOOT SWITCH FP2

Length x width x height.....	220 x 118 x 44 mm
Weight.....	approx. 0.4 Kg

FOOT SWITCH FP4

Length x width x height.....	802 x 144 x 44 mm
Weight.....	approx. 0.85 Kg

FOOT SWITCH FP6

Length x width x height.....	511 x 170 x 44 mm
Weight.....	approx. 1.25 Kg

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 700 hPa to 1060 hPa

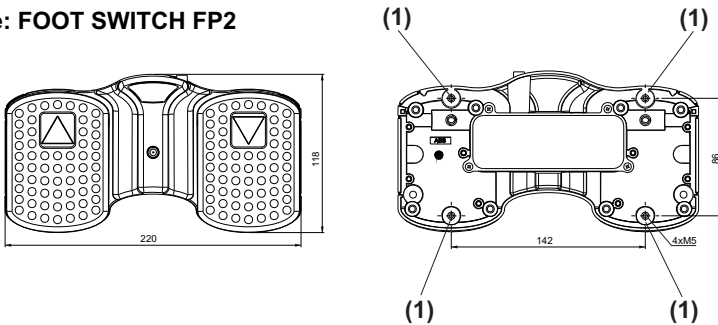
4. Fitting

The supply package includes the **FOOT SWITCH** which, depending on the version ordered, comes with **2, 4 or 6 adjustment buttons**.

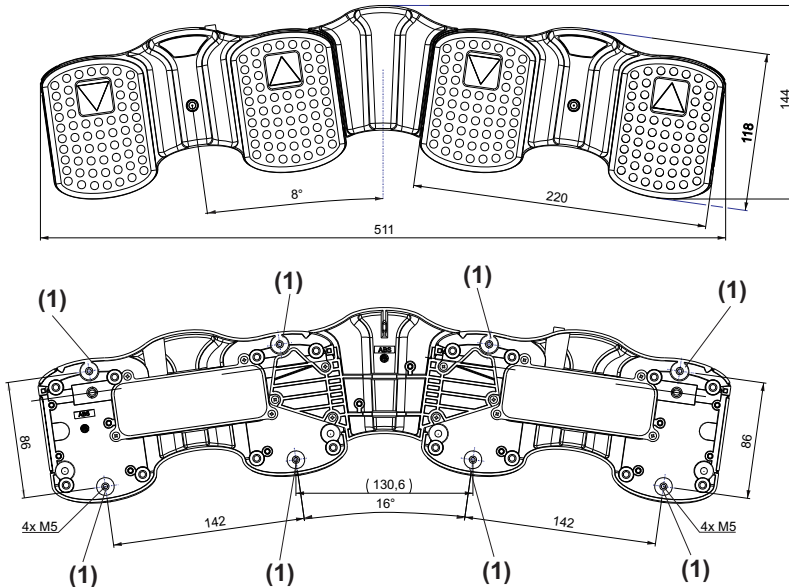
a) Fixing and connection

The **FOOT SWITCH FP** can be fastened to an object with screws (M5, **screw length** = thickness of the application + min. 7mm to max. 9mm). Corresponding counternuts (M5) can already be found in the housing. Insert the connection lead into the corresponding socket in the control unit or the drive system (see Installation Instructions supplied with the drive controls). Dimensions of the **fixing points (1)** according to sketch.

Example: FOOT SWITCH FP2



Example: FOOT SWITCH FP4



FOOT SWITCH FP

b) Electrical connection

In the **Operating Instructions** to be issued by you, point out to the operator that if leads, in particular the **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**, are fastened to the bed with adequate **strain relief** and **kink protection** and that suitable constructional measures prevent the **mains connection lead from trailing on the floor** when the bed is being **moved**.

c) Dismantling

Remove the connection lead from the respective plug socket of the controls or drive system. Loosen the fastening screws, the **FOOT SWITCH FP** can be removed.

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.

Notice: Be sure that your foot is firmly positioned and properly centered over the foot switch. Pressing the switch with your hand or with the tip of your shoe is incorrect and not permitted.

a) Prerequisites

The functions of the **adjustment buttons** are **only available** provided these are **not inhibited** on a locking device or supervisor possibly being used in conjunction with the equipment. In certain circumstances it may be advisable to block functions in order to prevent specific movements being carried out.

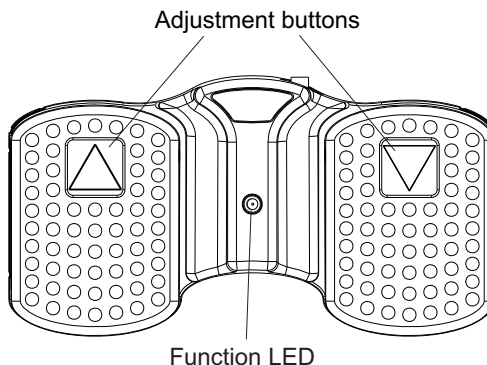
On the FOOT SWITCH FP ...

- the **function LED** indicates that a button is pressed. With the CARE L/CARE/HOSP control unit an error signalling function is supported in addition.

An **error (first error)** has occurred if

- the LED **does not light up** when a key is pressed,
- the LED **glows permanently** or
- **no signal is emitted from the controls** (only CARE/HOSP) or
- **a constant signal is emitted from the controls** (only CARE/HOSP).

The drive system must then be replaced **immediately!**



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6. 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**

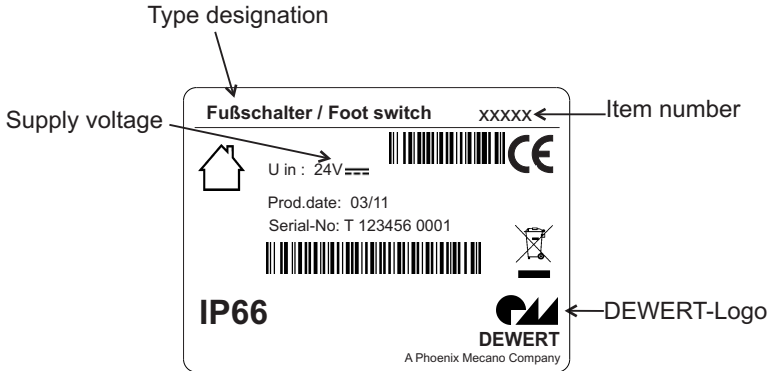
a) Check

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 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.
- See also the Installation Instructions supplied with the drive controls and drive systems.

7. Type Plate

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



Graphical Symbols



Conformity marks

IP66

Protection category

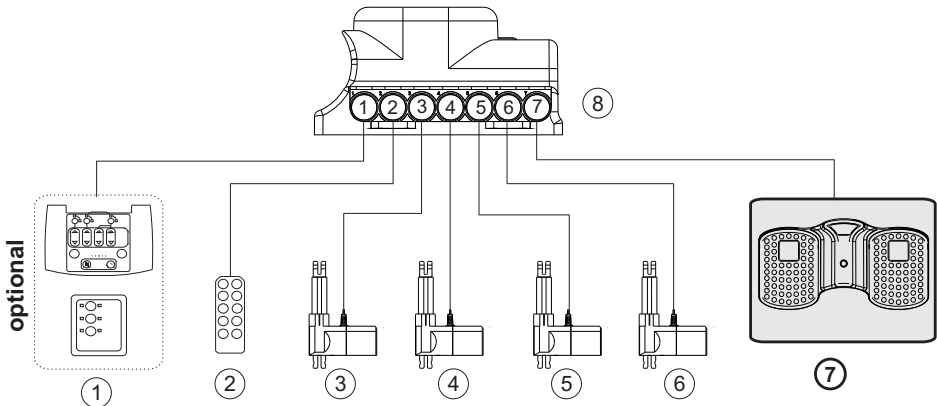


Use in dry rooms only

FOOT SWITCH FP

8. Design of the Drive Control System with FOOT SWITCH (example)

Example: (Figure: MCL 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 ¹⁾	DEWERT locking device or DEWERT supervisor	Blocking function Blocking function
2	DEWERT handset	Version depends on application range (e.g.: IPROXX®)
3 - 6	DEWERT slave drive	e.g. MEGAMAT, MEGAMAT 2 ...
7	DEWERT foot switch	e.g. FP2, FP4 ...
8	DEWERT control system	Drive control unit

¹⁾ Components **cannot be used** on one and the same controls

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.

Problem	Possible Cause	Remedy
FOOT SWITCH or drive system without function	<ul style="list-style-type: none"> - FOOT SWITCH or drive system defective - No supply voltage 	<ul style="list-style-type: none"> - Contact your supplier/dealer - Connect to the mains
Drives suddenly no longer respond, no movement takes place	<ul style="list-style-type: none"> - Thermoswitch on the transformer or in the control unit has been triggered - Temperature fuse in transformer defective - Miniature fuse has been triggered - Feeder cable (mains and/or handset/ slave drive) interrupted 	<ul style="list-style-type: none"> - Leave the drive system in rest position for approx. 20-30 minutes - Contact your supplier/dealer - Check the feeder cable, if necessary restoring contact
Permanent or longer-sounding warning signal (CARE/HOSP only)	<ul style="list-style-type: none"> - Contol unit is defective 	<ul style="list-style-type: none"> - Contact your supplier/dealer
Function LED in the handset does not light up when keys pressed or glows constantly (CARE L/CARE/HOSP)	<ul style="list-style-type: none"> - Fault in the control system - End-of-travel position reached - Blocking switch on control box/ Supervisor or IPROXX® SE/SE+ set at "blocked" - Drive load exceeded - Battery backup system has reached total discharge 	<ul style="list-style-type: none"> - Contact your supplier/dealer - Operate drive to move from the end-of-travel position - Release the blocking switch - Relieve the drives - Connect the system to the mains to charge the batteries
IPROXX® SE/SE+: Mode LED lights up in the blocked state Mode LED does not light up in the released state	<ul style="list-style-type: none"> - Fault in the handset 	<ul style="list-style-type: none"> - Contact your supplier/dealer
No movements can be carried out, by using a handset with blocking function	<ul style="list-style-type: none"> - Handset is blocked. (after a power failure, the IPROXX® SE/SE+ handset automatically switches to the blocked state) - Locking device or supervisor is blocked (If being used) 	<ul style="list-style-type: none"> - Use the magnet to release The handset

FOOT SWITCH FP

9. Cleaning

The **FOOT SWITCH FP** 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 **FOOT SWITCH FP** 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 from the drive system!

Never clean the **FOOT SWITCH FP** in a wash tunnel, use a **high-pressure cleaner** on the controls or **spray fluids** directly onto them using jets. You risk damaging the equipment!

When **cleaning** take care not to **damage** the drive system's **connection lead!**

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

10. Disposal

The **FOOT SWITCH FP** 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

The FOOT SWITCH FP should not be disposed of with normal household waste!



EC Declarations

EC Declaration of Conformity

according to appendix IV of the EU EMC Directive 2004/108/EG,

The Manufacturer:

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

hereby declares that the drive system described below

FOOT SWITCH FP2/FP4/FP6 with DEWERT-drive system

meets the following EC Directives:

Electromagnetic Compatibility Directive 2004/108/EC

Applied Standards:

EN 60335-1/A14:2010
EN 55014-1/A1:2009
EN 55014-2/A2:2008
EN 61000-3-2/A2:2009
EN 61000-3-3:2008

Constructional changes which affect the technical data stated in the Installation Instructions as well as the designated use, in other words which change the drive system in a considerable way, make this Declaration of Conformity null and void!



Kirchlengern, 15th September 2011

Andreas Roither
Director of Development and Design

FOOT SWITCH FP

Additional Information

FOOT SWITCH FP2/FP4/FP6 (see assembly)

Based on EN 60601-1:1990 +A1:1993 +A2:1995, Electro medical Equipment

EN60601-1, section 56.11

Hand-held and foot-operated adjustment devices

Based on EN 60601-1:2006 Electro medical Equipment

EN60601-1, section 15.4.7

Hand-held and foot-operated adjustment devices

Based on EN 60601-2-52:2010 Electro medical Equipment-part 2-52: Particular requirements for basic safety and essential performance of medical beds

EN60601-2-52, section 201.11.6.5.101

Only in the versions, Protection category min. IPX4

EN60601-2-52, section 201.9.2.2.5

Continuous Activation (Control unit with keypad)

Based on EN1970:2000 Beds for the Disabled

EN1970, in part section 4

Operator's control with keypad

En1970 section 5.11

Electro technical requirements

Only in the versions, Protection category min. IPX4

Based on EN60601-2-38:1996 +A1:2000, Power-operated Hospital Beds

EN60601-2-38, section 5.3

Only in the versions, Protection category min. IPX4

EN60601-2-38, section 22.4.101

Control unit with keypad

Notes

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Notes

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DEWERT
Antriebs- und Systemtechnik GmbH
Weststraße 1
32278 Kirchlengern/Germany
Tel: +49(0)5223/979-0
Fax: +49(0)5223/75182
<http://www.dewert.de>
Info@dewert.de