ilcon
LINEAR ACTUATOR CONCEPTS

Responsibility and safety:

ilcoFree

Zero standby power consumption
and no electromagnetic fields:
the all-pole mains free isolation.

The safety of patients and residents is our primary concern.

With ILCON, the specialists for actuators and components for medical products, and the mains free isolation ilcoFree, you are on the safe side.

The problem:

Many people are concerned about electromagnetic fields but cannot assess the actual effect they have on body and health. The term "electrosmog" as used by the populist media is misleading, because electrical and magnetic fields are physical in nature and there no particles that can be filtered or categorically prevented are involved. Every electrical conductor is surrounded by an electrical and magnetic field. A magnetic field occurs whenever current flows. These fields can be prevented or minimised by shutting off devices completely. This also affects the standby function of many electrically powered devices because here too, magnetic fields also remain in the vicinity of the device. Continuous load through electrical fields is suspected of having negative health consequences. As a precautionary measure, the German Commission on Radiological Protection (SSK) of the Federal Office for Radiation Protection therefore recommends preventing or shutting off electrical fields, especially on sleeping stations. This applies in particular to weakened persons such as infants, the elderly and the ill.

The solution:

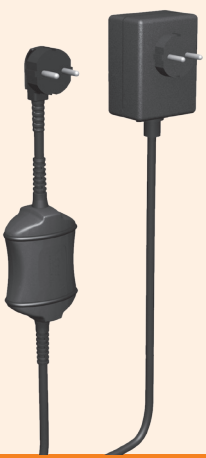
The **ilcoFree** is a maintenance-free, independent mains free isolation that provides a completely voltage-free area beneath your bed and requires no standby transformer which constantly consumes current. When the hand control is not actuated, there is no connection to the mains so at a distance of 10 cm above the actuator, no alternating field is measured – there is no electrosmog. As well, energy consumption and its associated costs are decreased.

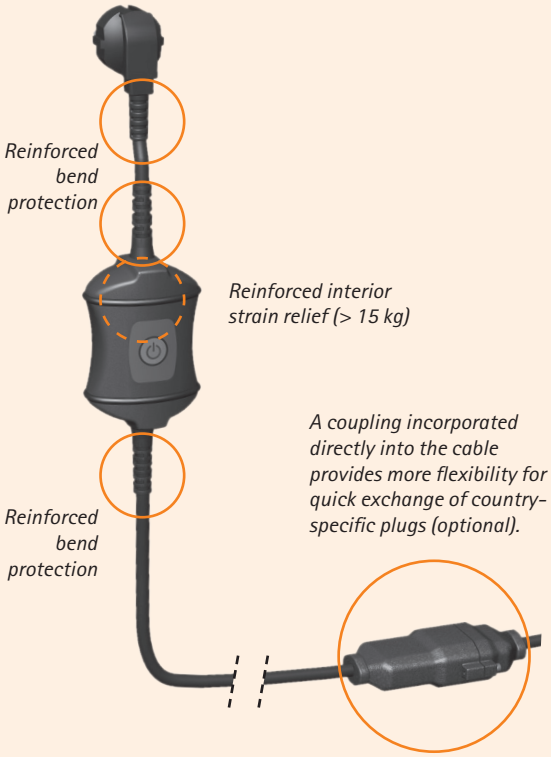
The latest market knowledge and analysis show: in cooperation with our partners and prior validation and consideration of risks, leakage current metering intervals of up to 12 years are possible. Please also note the manufacturer's particular instruction with regard to inspection requirements.

Nonetheless, conscientiousness regarding the safety of patients or residents remains the responsibility of the operator. As we see it, health, convalescence and well-being are our greatest goods.

The ilcoPower SMPS can be provided with country-specific plug variants.

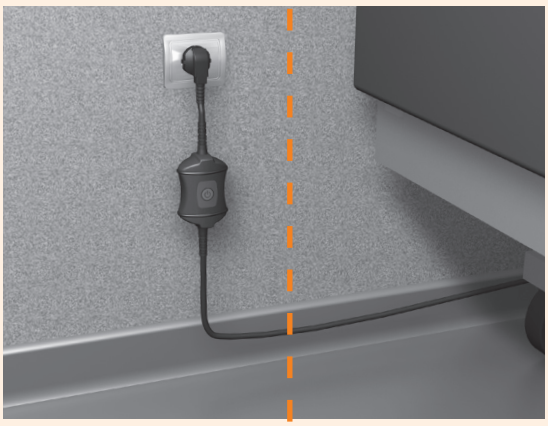
The comparison very clearly shows the difference: The image on the right as our present mains free isolation next to the new ilcoFree on the left. The new mains free isolation is now better protected against mechanical damages thanks to enforcements and flexibility. Optionally available also in IP x6. Your benefit for more safety, better handling, durability and your budget.

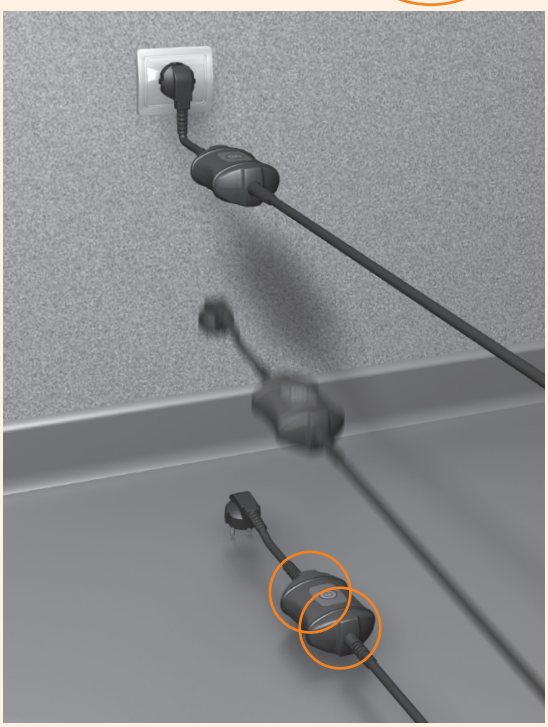


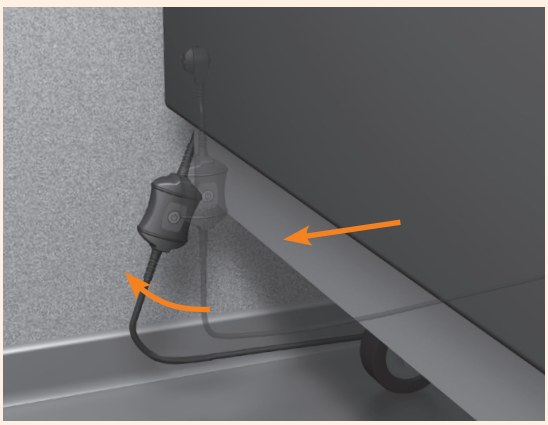


On the new ILCON mains free isolation **ilcoFree**, the electronics are no longer directly in the mains plug as before, but are integrated into the cable approx. 8 cm behind it. Now, damaged outlets or connector housings are a thing of the past.

The mains free isolation and bed are separate from each other.







If the ilcoFree is struck by a moving bed, it is pushed to the side.

Protected by special damper rings, the ilcoFree is not damaged if it is accidentally pulled from the outlet. Our mains free isolation is tested according to IEC 60601-2-52 for hand-held ME devices and has passed the inspection for fall protection.

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The functional principle is as simple as possible. A 2-pole relay ensures complete, all-pole separation from the mains. The **ilcoFree** is activated as soon as a button on the hand control is pressed. The system functions are activated by a direct current capacitor on the control board in the actuator **ilcoFlexx** or in the control box **ilcoPower**. This capacitor provides the relays with current. As needed, the relays reconnect the system to the mains and the motors travel to the desired position. Each time a button on the hand control is actuated, the capacitor is reloaded and ready for the next task. Each time the hand control button is released, the current supply is completely switched off by the relays in the mains free isolation.

The ilcoFree separates all poles of the connection completely from the mains.

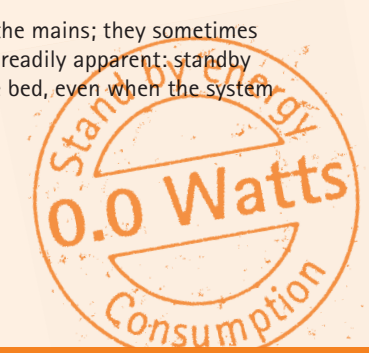
As soon as the hand control is actuated, the actuator is connected to the mains.

As a standard safety feature, the system has a 9-V battery to provide the capacitor with voltage when required, as when the system is not triggered for several weeks. Because the capacitor consumes very little energy when loading, this battery remains usable over many years. If the actuator is triggered at least once a week, the battery is never drawn on. Therefore the average battery lifespan of 3–5 years is shortened only by emergency actions during mains voltage failure. If the battery and a capacitor are ever empty at the same time, briefly pressing the green button on the **ilcoFree** is all it takes. A relay ensures direct loading of the capacitor and the system is immediately ready for use.
In addition, a primary fuse has been integrated into **ilcoFree**, to safely isolate the bed from the mains at the plug in case of any malfunction.

Complete disconnection of the mains supply to the transformer in the bed control reduces its heat generation. Because the transformer is cold, there is even more power available for the actuators. For you, this means that the bed can be moved at higher speed even under heavy loads and that duty cycles can be prolonged.

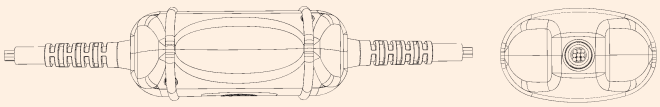
Conventional so-called mains free isolation are not independent of the mains; they sometimes require a standby transformer for power supply. The disadvantage is readily apparent: standby current consumption and continual electromagnetic fields under the bed, even when the system is not in use.

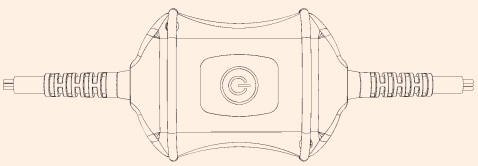
With safety: ILCON.

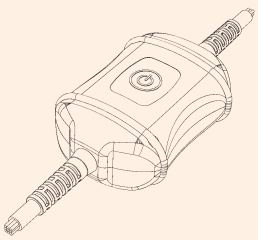


»I was told that there is no standby consumption in this bed. Even more important: current flows only when the button is pressed. That's how it always should be.«

Product details
Free from mains alternating fields when actuator is not in use
Environmentally friendly through prevention of standby current
Cost savings through lowered current consumption
Compatible with superordinate mains isolators
Mains-independent function
No mains current consumption when actuator is isolated
Acoustical on and off signal
No standby transformer necessary
Maintenance-free
Electromagnetic 2-pole relay for effective mains isolation
Primary fuse
C-suppression
Optional
Spiral power cable
IP x6
Cable plug-in coupling
Hook
AUS, UK, USA or Japan version







The brochure "ilcoPower SMPS" is also available upon request.

ilcoPower and ilcoFree. It's your choice: 2 power supplies featuring the ILCON Slim Design.

More at:
ilcon-actuator.de
ilcon-actuator.com

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