limoss

care products

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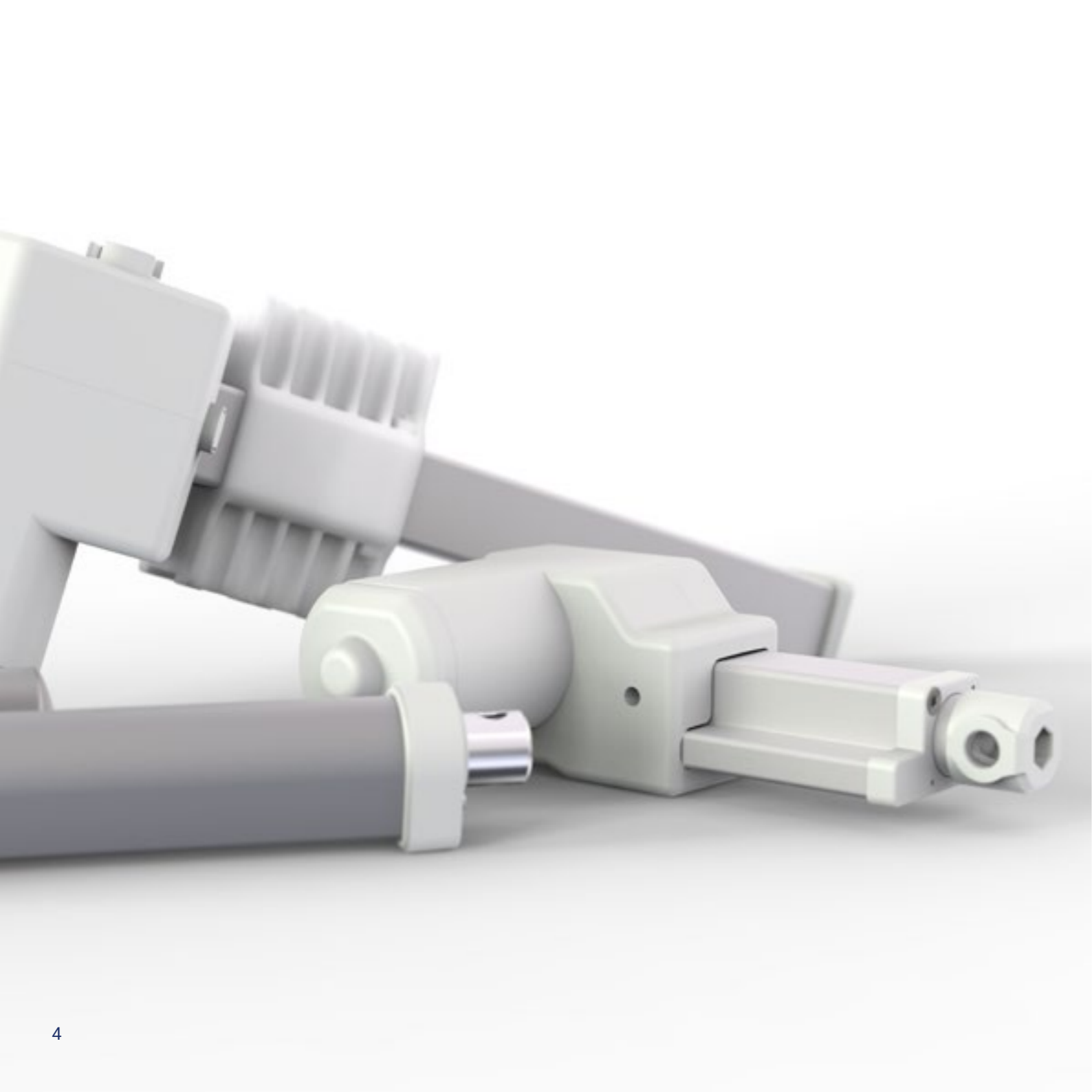
Single actuator

limoss offers a wide range of single actuators in the MD1-series suitable for your needs and requirements in the areas of home-care and medicine.

Due to the wide range of installation situations, our limoss single actuators are available in many different installation dimensions and mounts (see synopsis). With pleasure we develop a suitable solution customizeable to your needs.

All single actuators of the MD1-series are compatible with our motor controls and power supplies

- Mounting options
- MD100
- MD120
- MD121
- MD125
- MD130
- MD140
- MD141
- MD142
- MD143
- MD144
- MD145
- MD146

Duty cycle max. 10 % and continuous use max. 2 min with subsequent 18 min break

Mounting options

Mounting pipe side

① Metal forkhead

mounting slot
6 mm

crosshole
Ø 10 mm

② Plastic forkhead

mounting slot
6 mm

crosshole
Ø 10 mm

③ Plastic forkhead

without slot

crosshole
Ø 10 mm

④ Thread head

hole
Ø 5 mm

⑤ Hole with bushing

crosshole
Ø 10 mm

⑥ Hole

crosshole
Ø 10 mm

⑦ Hole with metal plug

crosshole
Ø 8 mm

(only for MD130)

⑧ Driver block

double clevis

⑨ Driver block

single clevis

Mounting motor side

Ⓐ Plastic forkhead

mounting slot
6 mm

crosshole
Ø 10 mm

Ⓑ Plasticforkhead turned 90 degree

mounting slot
6 mm

crosshole
Ø 10 mm

Ⓒ Clip 25 mm

Ⓓ Clip 40 mm

Ⓔ Mounting bolt

mounting with circlips / four

mounting holes
Ø 4,8 mm

Ⓕ Flat slot

four mounting hole
Ø 10 mm

Ⓖ Metal forkhead

crosshole
Ø 8 mm

MD100

The MD100 is a very quiet and powerful linear actu- ator used in a multitude of applications, e.g. furniture for seating or bedding in home or care furniture. The single actuator MD100 was developed specifically for applications with up to 95 mm stroke and offers optimum price-performance ratio.

Technical data

- **Push** force to max. 6.000 N
- **Pull** force to max. 5.000 N
- **Installation** length for stroke of 20 mm – 75 mm, min. installation length 215 mm and for stroke of 75 mm – 95 mm, min. installation length 235 mm
- **Stroke** min. 20 mm - max. 95 mm
- **Speed** without load up to 40 mm/sec
- Protection type IPX6
- **Mounting** pipe side 1, 2, 3, 4
- Mounting motor side a, c, d

MD120

The MD120 is a drive using the latest technology and it is highly resilient. Supported by its robust structure it can operate up to 8.000 N force. The compact design and high level of performance makes the MD120 the right choice for many applications in the medical sector and for industrial applications.
The MD120 fulfils all requirements for a modern single actuator.

Technical data

- **Push** force to max. 8.000 N
- **Pull** force to max. 6.000 N
- **Installation** length min. 170 mm + stroke
- **Stroke** max. 600 mm
- **Speed** without load up to 40 mm/sec
- **Protection** type IPX6
- **Mounting** pipe side 1, 2, 4
- **Mounting** motor side a, b, d, e, f

MD121

The MD121 is a compact single actuator with a small built-in length and it is highly resilient. Thanks to its minimally required space, the MD121 is ideal for the usage in home care beds or recliners.

Technical data

- **Push** force to max. 6.000 N
- Pull force to max. 5.000 N
- Installation length min. 170 mm + stroke
- Stroke max. 600 mm
- Speed without load up to 40 mm/sec
- Protection type IPX4
- Mounting pipe side 1, 2, 3, 4
- Mounting motor side a

MD125

As of now it's possible to use the modified MD125 for position detection using hall effect sensor, available in IP66, too. Thanks to its minimally required space and a built-in length of 120 mm + stroke the MD125 can be used just about anywhere.

Technical data

- **Push** force to max. 3.000 N
- Pull force to max. 3.000 N
- Installation length min. length 120 mm + stroke
- Stroke max. 400 mm
- Speed without load up to 96 mm/sec
- Protection type IPX4
- Mounting pipe side 1, 2, 3, 4
- Mounting motor side a

MD130

The MD130 with the compact and elegant design is perfect for limited space furniture applications like headrests.

Technical data

- **Push force to max. 1.000 N**
- **Pull force to max. 1.000 N**
- **Installation length min. length 153 mm + stroke**
- **Stroke min. 10 mm to max. 300 mm**
- **Speed without load up to 29 mm/sec**
- **Protection type IP20, IP44, IP66**
- **Mounting pipe side 7**
- **Mounting motor side g**

MD140

The linear single actuator MD140 was developed specifically for applications in the leisure furniture sector. The very small distance (from 150 mm) between the mounting points gives it very small installation dimensions that are independent of the stroke length. This makes the actuator ideal for recliners with lift function.

Technical data

- **Push** force to max. 6.500 N
- Pull force to max. 6.000 N
- Installation length 150 mm or 157 mm
- **Stroke** max. 600 mm
- Speed without load up to 50 mm/sec
- Mounting pipe side 8
- **Mounting** motor side a

MD141

The single actuator MD141 was developed specifically for application with little load and higher speed. The MD141 has very small installation dimensions that are independent of the stroke length.

Technical data

- **Push** force to max. 1.500 N
- Pull force to max. 1.500 N
- Installation length 150 mm or 157 mm
- Stroke max. 600 mm
- Speed without load up to 50 mm/sec
- Mounting pipe side 8, 9
- Mounting motor side a

MD142

The MD142 offers a "value for money" which never previously existed in applications with a load of up to 1.500 N and high adjustment speed. The small installation dimension of only 150 mm is independent of the stroke length.

Technical data

- **Push** force to max. 1.500 N
- Pull force to max. 1.500 N
- Installation length 150 mm or 157 mm
- Stroke max. 600 mm
- Speed without load up to 50 mm/s
- Mounting pipe side 8, 9
- Mounting motor side a
- optional with rubber lip

MD143

The MD143 is based on the modular system of the MD115. In contrast to the stroke pipe design, a sliding block design was selected. Consequently, the benefits of the sliding block can also be take effect under restricted space conditions.

Technical data

- **Push** force to max. 3.000 N
- Pull force to max. 3.000 N
- Installation length min. 110 mm + stroke
- Stroke min. 50 mm to max. 400 mm
- Speed without load up to 40 mm/sec
- Mounting pipe side 8
- Mounting motor side a

MD144

Our MD144 is based on the modular design of the MD115. Due to the compact and optimized design, it is especially suitable for actuating tasks with small driving powers of up to 2.500 N.

Technical data

- **Push** force to max. 2.500 N
- Pull force to max. 2.500 N
- Installation length min. 100 mm + stroke
- Stroke min. 50 mm to max. 400 mm
- Speed without load up to 40 mm/sec
- Mounting pipe side 8, 9
- Mounting motor side a

MD145

The MD145 is a further development of our MD144. Further optimization measures and differentiated sliding block variants enable a wide integration into existing fitting variants.

————————————————————Technical data

- **Push** force to max. 3.000 N
- Pull force to max. 3.000 N
- Installation length min. 114 mm + stroke
- Stroke min. 50 mm to max. 400 mm
- Speed without load up to 21 mm/sec
- Mounting pipe side 8, 9
- Mounting motor side a

MD146

Due to the small space requirement and the very small installation dimension of 140 mm and stroke, the MD146 can be accommodated even in the most compact fittings.

————————————————————Technical data

- **Push** force to max. 2.600 N
- Pull force to max. 2.600 N
- Installation length 140 mm or 150 mm or 157 mm
- Stroke max. 400 mm
- Speed without load up to 48 mm/sec
- Mounting pipe side 8
- Mounting motor side a

Double actuator

Our *limoss* double actuator from the MD2-series are extremely robust and reliable. A small packaging volume is achieved by the vertical arrangement of the drive units. The further developed and adapted MD201 optimizes the packaging volume again. Up to sets of 98 units can be transported on an euro pallet.

The double actuator comply with the usual and required standards, protection classes and types and are compatible with various *limoss* operating elements.

- MD200
- MD201

MD200

The MD200 double actuator is a perfect fit for applications requiring a high level of resilience and durability. Due to the vertical positioning of the actuator units, a housing with strikingly improved mechanical qualities and a very compact packing dimension has been achieved.

_____ Technical data

- **Push** force head 6.000 N and foot 6.000 N
- Installation length 581 mm
- Stroke 48, 53, 69, 74 or 87 mm
- Shaft seating Ø 25 mm
- Installation height 130 mm
- Duty cycle max. 10 % and continuous use
  max. 2 min with subsequent 18 min break

_____ Optional

- Shaft seating Ø 34 mm
- Position detection using hall effect sensor
- Emergency lowering via 18 V alkaline battery
- External power supply
- Wireless hand control
- Mechanical quick-release
- External RF receiver,
  with or without LED underbed light
- Integrated underbed LED light LA501

_____ Additional information

- DC motors
- Housing color black RAL 9005 / grey RAL 7035
- Protection type IP20, IP24
- Manufactured according to VDE, protection class II / III
- Mains connection 100 – 240 V AC
- Very low standby consumption
- Compatible with various *limoss* hand controls
- Connections for up to 2additional drives plus additional function
- Limit switching via micro-switch
- Maintenance low

MD201

MD201, the new and even more innovative double actuator. Through optimization of the MD200 housing an unmatched shipping batch density of up to 98 set of MD201 per euro pallet can be realized.

_____ Technical data

- **Push** force head 5.000 N and foot 4.000 N
- Installation length 581 mm
- Stroke 48, 53, 69, 74 or 87 mm
- Shaft seating Ø 25 mm
- Installation height 114.5 mm
- Duty cycle max. 10 % and continuous use
  max. 2 min with subsequent 18 min break

_____ Optional

- Shaft seating Ø 34 mm
- Position detection using hall effect sensor
- Emergency lowering via 18 V alkaline battery
- External power supply
- Wireless hand control
- Mechanical quick release
- External RF receiver,
  with or without LED underbed lighting
- Integrated underbed LED light LA501
- up to 6.000 N

_____ Additional information

- DC-motors
- Housing color black RAL 9005 / grey RAL 7035
- Protection type IP20, IP24
- Manufactured according to VDE protection class II / III
- Mains connection 100 – 240 V AC
- Very low standby consumption
- Compatible with various *limoss* hand controls
- Connections for up to 2 additional drives plus additional function
- Limit switching via micro switch
- Maintenance low

Hand controls

To differentiate your product, *limoss* offers a variety of different hand controls.

Apart from the classic, wired versions we can also offer many of our hand controls as a wireless version in the HC3-series (HC = hand control) or as a built-in hand control in the HC2-series.

In addition, we can offer you many more options to choose from: for example different housing colors and structures, LED lighted buttons in different colors and individual customer logos or button symbols. Many of our hand controls are available with an additionally installed hook or magnetic plate, for easy attachment when the hand control is not being used. On request, we can integrate a lock button to lock individual functions. Especially in the care sector, this is a useful and important function.

Furthermore, we are glad to develop customized solutions for you.

- HC140
- HC145
- HC146
- HC147
- HC148
- HC149
- HC280

HC140

- Hand control for care sector 2 to 8 buttons, as required for 2-, 3- or 4-motor systems
- Keypad recessed to avoid accidental activation
- Protection type IP44
- Mechanical lock button
- With first-error security

HC145

- Hand control for care sector 2 to 12 buttons, as required for 2-, 3- or 4-motor systems
- Raised rubber keypad
- Protection type IP44
- Mechanical lock button
- With first-error security

HC148

- Slimline hand control for care sector
- Combination of 2 to 8 buttons, as required for 1-, 2-, 3- or 4-motor systems
- Keypad recessed to avoid accidental activation
- Protection type IP46
- Mechanical lock button
- Lighted buttons

HC149

- Suitable hand control for the care sector with speech output for the blind
- Combination of 3 to 9 buttons for 1- or 2-motor systems
- Housing color light grey RAL 7035
- Protection type IP44
- Mechanical lock button

HC146

- Slimline hand control for care sector
- 2 to 12 buttons, as required for 3- or 4-motor systems
- Keypad recessed to avoid accidental activation
- Protection type IP46
- Mechanical lock button
- With first-error security

HC147

- Hand control for care sector 2 to 10 buttons, as required for 2-, 3- or 4-motor systems
- Keypad recessed to avoid accidental activation
- Protection type IP46
- Mechanical lock button
- With first-error security

HC280

- Nurse panel for care attendants
- Up to 25 buttons possible
- Safe function due to internal *limoss* singe fault safety
- For 4-motor applications with additional functions
- Single buttons can be locked
- Protection type IP66
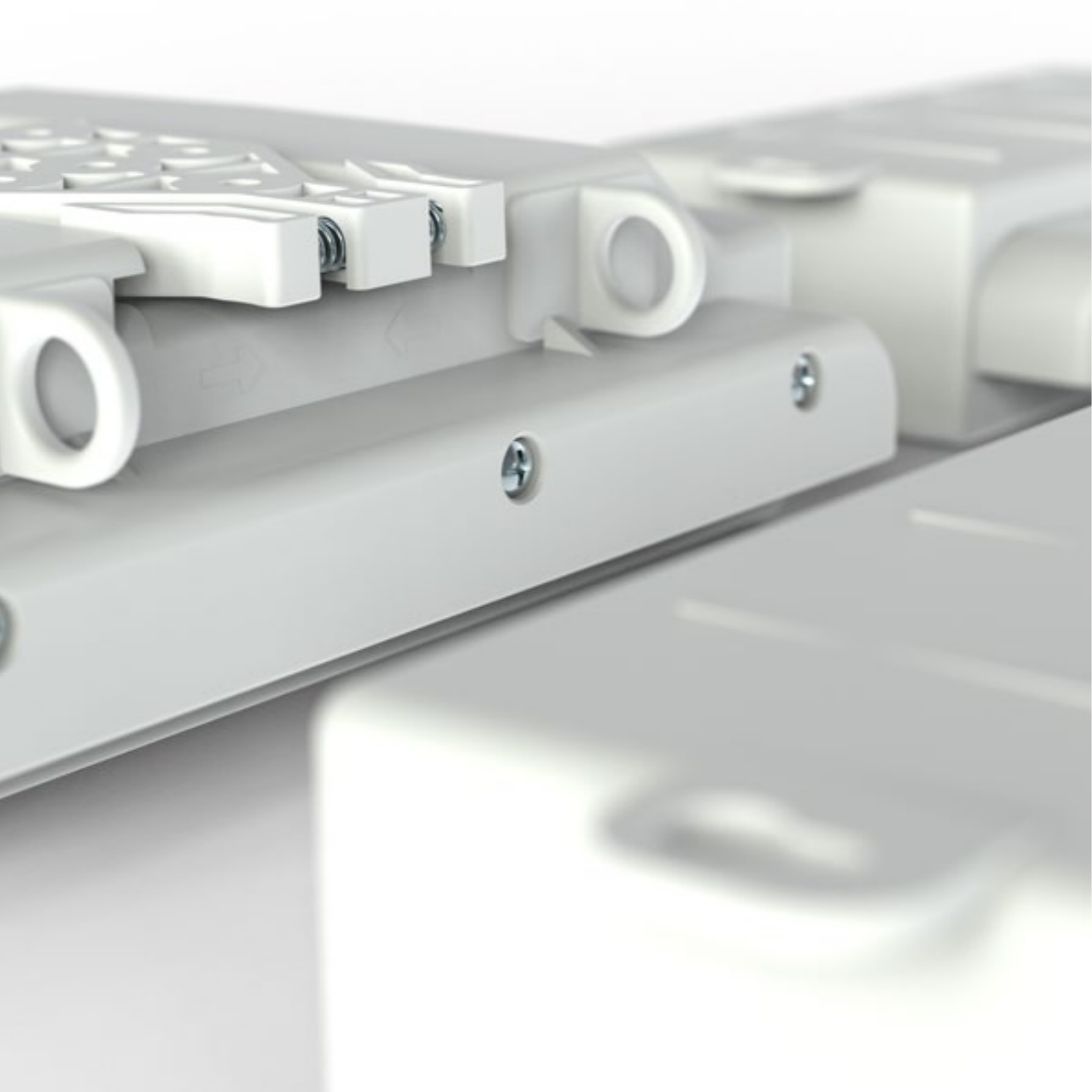
Motor controls

limoss offers a wide range of motor controls for simple and complex controls in the furniture and care sector. Special attention is paid to the possibility to consider certain dependencies of the fittings or to reach individual positions directly. We offer the opportunity to the motor control with a wireless hand control or via wireless with your smartphone.

In addition, it is possible to integrate special functions like switch outputs for lighting or massage functions. Especially for the medical sector, the motor controls can be equipped with additional safety functions like first-error security or the Trendelenburg position.

The voltage supply is supplied exclusively by the external voltage sources of the **limoss** MC1-series.

_____Technology

- Direct and relay controlled systems
- Universal controls
- Medical platforms
- Wireless remote controls
- Bluetooth based controls
- Cinema network systems
- Freely programmable medical system
- Sensor supported systems

_____Charts

- Motor controls

* only newest housing forms.
You will find other models on our webside
www.limoss.de

Motor controls

- Microprocessor relay control
- Control of up to 5 actuators
- First-error security
- Emergency lowering can be integrated in many housings
- Can be used in double actuator of the MD2-series
- Can be expanded with light control box for the use of bedside lamps
- Up to 3 hand controls / foot switches

Example MC220
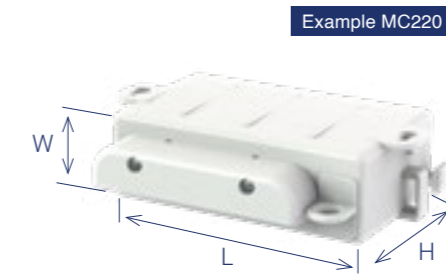
	Slots (input / output)	Protection class	Protection type	Mounting to clip	Mounting to clip on actuator	Battery case	Dimensions (L x W x H) in mm without plug lock	Dimensions (L x W x H) in mm with plug lock	Installation hole distance
MC210	8 pieces	II / III	IP20, IPX4, IPX6	▪	▪	1 piece	238,3 x 69,5 x 111,0	238,3 x 69,5 x 133,0	
MC220	5 pieces	III	IP20, IPX4, IPX6	▪		1 piece	161,5 x 45,5 x 79,0	161,5 x 45,5 x 101,0	145,5 mm
MC222	5 pieces	III	IP20, IPX4, IPX6	▪	▪	2 pieces	192,5 x 45,5 x 79,0	192,5 x 45,5 x 101,0	176,5 mm
MC224	7 pieces	III	IP20, IPX4, IPX6	▪	▪	2 pieces	192.5 x 49.9 x 99.0	192,5 x 49,9 x 121,0	176,5 mm
MC260	9 pieces	III	IP20, IPX4, IPX6	▪		2 pieces	216,8 x 61,6 x 126,5	216,8 x 61,6 x 148,5	

Power supplies and accus

Universally usable for all our *limoss* products are our different power supplies. Our MC-series (MC = motor control) offers different wall or ground mounted transformers. This allows the customer to decide where the transformator should be placed. The power supplies are available for the common country versions with their own plugs or adapter solutions.

Special features that comply with current standards, such as protection classes and types, fuses, overload protection, short circuit fuse and stain relief are listed separately, depending on the power supply.

We offer our black *limoss* power supplies (housing color black RAL 9005) with the required cable lengths, different output voltage, special plugs, emergency power (via batteries) and other possible combinations.

- MC115
- MC125
- MC160
- MC166

MC115

The AC adapter MC115 has greater reserve capacity and can be used in all standard systems. For applications in the medical field, it is the first choice. It is available with 29 V or 35 V output.

_____Technical data

- Input voltage 100 – 240 V AC
- Output voltage 24 V DC / 29 V DC / 35 V DC
- Output current 1.5 to 2.5 A
- Safety NTC-temperature-sensor, primary fuse, overload protection, overcurrent shutdown, output short circuit protection
- Protection type IP26
- Protection class II
- Intermitted mode with 10 % duty cycle
- With max. continuous use of 2 min
- LED "ON" indicator (green)
- Plug-in power cable on secondary side

MC125

The inline power supply MC125 offers all the performance of the MC120, is however designed as a ground transformer. Especially for the medical sector an optimal choice. It is available with 29 V and 35 V output.

_____Technical data

- Input voltage 100 – 240 V AC
- Output voltage 29 V DC / 35 V DC
- Output current 2.0 to 2.5 A
- Safety NTC-temperature-sensor, primary fuse, overload protection, Overcurrent shutdown, output short circuit protection
- Protection type IP26
- Protection class II
- Intermitted mode with 10 % duty cycle with max. continuous use of 2 min
- LED "ON" indicator (green)
- Plug-in power cable on secondary side
- Optional earth conductor (PE)

MC160

The lithium-ion accu MC160 has a compact design and 1.800 mAh storage capacity on the best attributes of an allrounder. It can be used in many ways both in the care as well as in upholstery applications.

_____Technical data

- Nominal voltage 25.2 V at 1.8 Ah
- Protection class III
- Internal charger
- Housing color grey RAL 7035
- Overcurrent protection
- Short circuit fuse
- LED "ON" indicator (green / red)

MC166

The lithium-ion battery MC166 has a compact design and a storage capacity of 1800mAh / 2200mAh, making it an all-round must have item. It can be used in a variety of ways in care and upholstery applications also has the necessary components to deem it a fast charger to quickly charge.

_____Technical data

- Nominal voltage 25.2 V at 1.8 Ah
- Protection class III
- Protection type IPX6
- Internal charger
- Housing color grey RAL 7035
- Overcurrent protection
- Short circuit fuse
- LED "ON" indicator (green / red)

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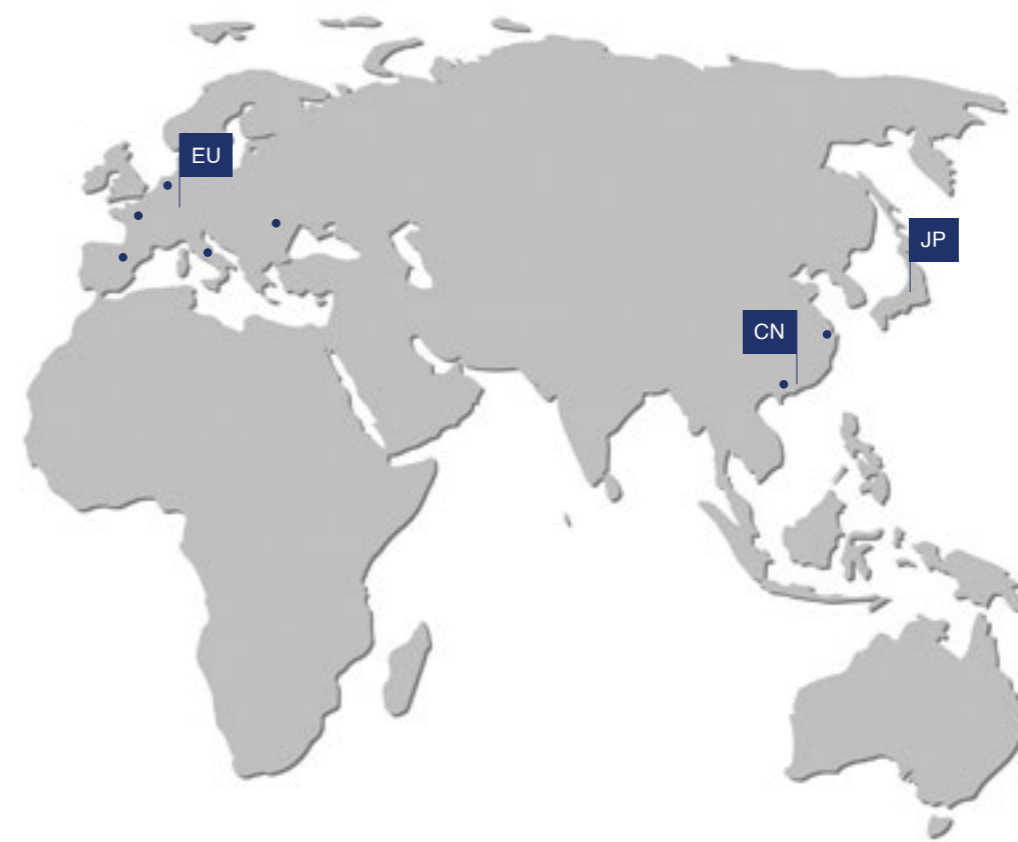sales-fr@limoss.de

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