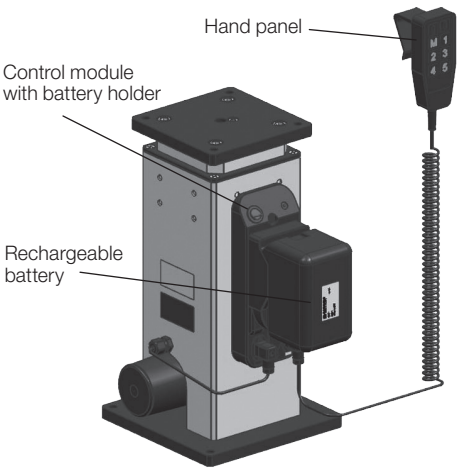
Power Supply for Mobile Systems
Control module with battery holder for *moduhub* modules

Application
The modules are used for power supply for mobile systems in industrial assembly. They are suitable for electro-mechanical lifting modules or linear actuators with 24 V and rotating modules.

Fixing and installation
The control module with battery holder can be fixed with two screws M8 to the provided threads in the lifting modules Shop-Floor at the outer profiles.
The supply line of the electrical actuator and the operating element are plugged in at the carrier plate of the control module.

Installation example
Single module



Advantages
- Off-grid power supply
- Microprocessor controlled
- Use in mobile systems
- Compact design
- Long service life
- Modular system with many possible combinations
- High process times by powerful battery
- No downtimes due to rechargeable battery
- Fast charging
- Soft start
- Protective functions: electronic current limitation, overcurrent cut-off, detection of blockades, duty cycle detection
- Deep discharge protection
- Charge warning
- Diagnostic signal
- Controlled positioning in stroke end positions and memory positions

Description
A system with different individual components allows a network-independent power supply for electrical lifting modules. A rechargeable battery supplies the drive unit with energy. The battery can be recharged by an external quick battery charger.
To guarantee working without downtime, it is recommended to have a second rechargeable battery.
Control modules with battery holder for a single module are used to control lifting modules.
Various operating elements allow an efficient functionality.

The following modules are required for an operational system:
- Rechargeable battery
- Control module with battery holder
- Operating element
- Quick battery charger
- Lifting module

Variants
The standard variant provides the functions “up/down“ in touch control.
All variants are designed for the operation with lifting modules with **code letter B or I**.
The integrated electronic ensures in combination with the stroke measuring system of the lifting modules a soft start and stop to protect all components.
Also, current limitation and duty cycle limitation help to increase the service life.
Further variants of the control modules with battery holder allow the function of storable intermediate positions, see page 2.
Individually pre-programmed end positions can be requested as a special version.

moduhub
Power supply for mobile systems
with single module
without synchronism

Technical data

Voltage	24 V
Capacity	5 Ah / 3 Ah

Part numbers

Rechargeable battery	5 Ah	**3822185**
Rechargeable battery	3 Ah	**3822186**
Quick battery charger		**3822177**
Control module with memory function		**3821270** **3821270M**

Combinable with the modules

- Lifting module – electro-mechanical as per data sheet M 4.202, M 4.301, M 4.401, M 4.501 **with code letter B or I**

- Cart module WMS as per data sheet M 5.101
- Linear actuator – electro-mechanical as per data sheet L 1.101 **with code letter I**
- Electrical operating elements, lines and connectors as per data sheet M 8.203

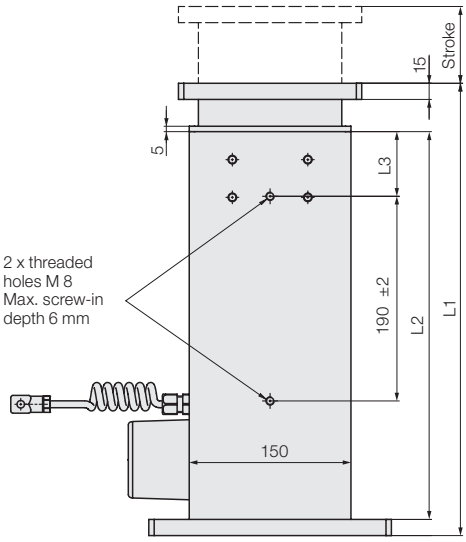
Materials
All essential elements are made of shock-resistant plastic to obtain a high robustness.

Control module with battery holder for 2 lifting modules in synchronism see page 3.

Attention
Rechargeable battery **3822185** (5000 mAh) must not be shipped by air.
Rechargeable battery **3822186** (3000 mAh) may be shipped by air.
According to UN transport test 38.3.

Control module with battery holder for *moduhub* modules

Installation



Stroke [mm]	**L1** [mm]	**L2** [mm]	**L3** [mm]
200	420	360	60
300	520	460	135
400	620	560	185
500	720	660	235
600	820	760	285

Description

The control module with battery holder is the key element of the system to which all further components are connected. It is suitable for a lifting module with different force levels / stroke lengths and incremental stroke measuring system. The holder for the rechargeable battery is already integrated in the control module and forms a compact unit for supply and control of the drive module. The control unit in the control module has connections for the lifting module, for one operating element and control signals for optional functions.

Optional function:

The memory function allows to store up to five height positions. These can be recalled again and again or can be stored again. Thus, ergonomically reasonable working heights can be obtained for different persons or different working heights within one assembly process can be determined. Operation is made via an operating panel that allows to store the height positions as well as to call them. Due to safety reasons, a movement is always made by touch control.

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Control module with battery holder

for 1 *moduhub* module
with incremental stroke measuring system

Part no. **3821 270**

Accessories

- Electrical operating elements, cables and connectors as per data sheet M 8.203

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Control module with battery holder

with memory function

for 1 *moduhub* module
with incremental stroke measuring system

Part no. **3821 270M**

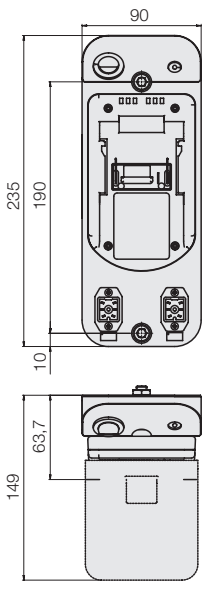
Accessories

- Electrical operating elements, cables and connectors as per data sheet M 8.203

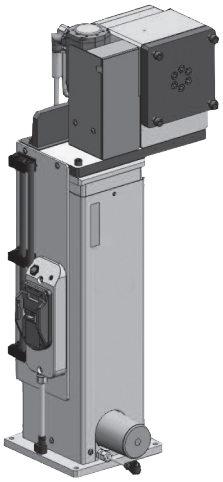
Technical data
Control module

Operating voltage (battery)	25.2 V
Electronic current limitation	8 A
Duty cycle	15 %, 1.5 min ON
Protection class	III
Code class (in mated condition)	IP 30
Standby current consumption	approx. 7 mA
Electrical connections	Plug connection secured by screw
Weight	approx. 700 g

Dimensions



Application example

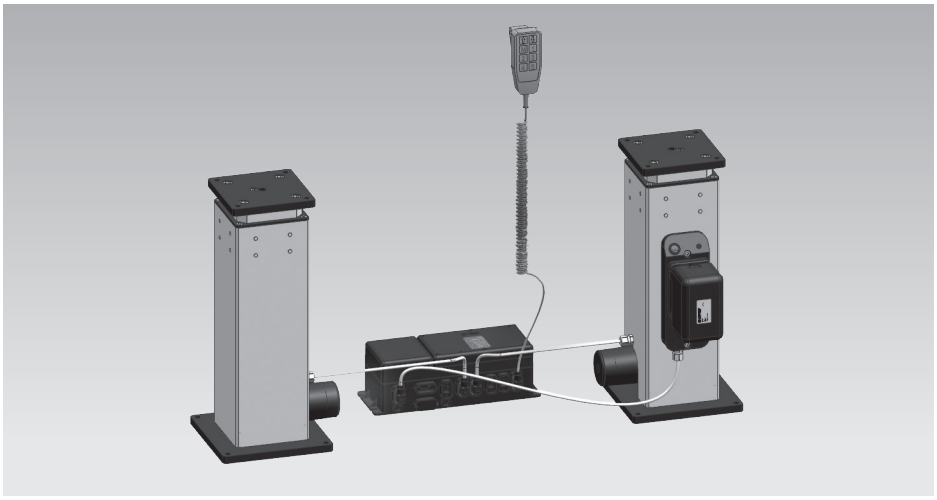


Special version, please contact us.

Fixing and installation

Fixation and installation of the control module can be carried out directly at the lifting module in prepared bore holes.

Control module and battery holder for *2 moduhub* lifting modules in synchronism



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Power supply for mobile systems

with 2 lifting modules in synchronism

Technical data

Voltage	24 V
Capacity	5 Ah / 3 Ah

Part numbers

Rechargeable battery 5 Ah	**3822185**
Rechargeable battery 3 Ah	**3822186**
Quick battery charger	**3822177**
Control module Standard	**3821416B**
with memory function	**3821416MB**
Battery holder with 1 m cable	**3821276L1000**
Battery holder with 3 m cable	**3821276L3000**

Combinable with the modules

- Lifting module – electro-mechanical as per data sheet M 4.202, M 4.301, M 4.401, M 4.501 **with code letter G**
- Linear actuator – electro-mechanical as per data sheet L 1.101 **with code letter I**
- Electrical operating elements, lines and connectors as per data sheet M 8.203

Description

The control module is the key element of the system to which all further components are connected.
It is suitable for two lifting modules with different force levels / stroke lengths and incremental stroke measuring system. The system for 2 lifting modules in synchronism uses a battery holder with 1 m or 3 m cable and connector. The control module has connections for 2 lifting modules, for 1 operating element, for a battery holder and control signals for optional functions.

The following modules are required for an operational system with 2 lifting modules in synchronism:

- Rechargeable battery
- Control module
- Operating element
- 2 lifting modules, version G
- Battery holder
- Quick battery charger

Optional function:

The memory function allows to store up to five height positions.
These can be recalled again and again or can be stored again. Thus, ergonomically reasonable working heights can be obtained for different persons or different working heights within one assembly process can be determined.
Operation is made via an operating panel that allows to store the height positions as well as to call them. Due to safety reasons, a movement is always made by touch control.

Fixing and installation

Fixation and installation of the battery holder can be carried out directly at a lifting module in prepared bore holes.
During the first start up, the setting mode has to be activated by the user. The control automatically adapts itself to the connected lifting module.
The process in detail, see operating manual.

Battery holder

Dimensions see page 2.

Control module

Dimensions see data sheet M 8.200.

Attention

Holders for control modules can be requested as a special version.

Technical data Control module

Operating voltage (battery)	25.2 V
Electronic current limitation	10 A
Duty cycle	15 %, 1.5 min ON
Protection class	III
Code class (in mated condition)	IP 30
Standby current consumption	approx. 7 mA
Electrical connections	Plug connection secured by screw
Weight	2.5 kg

Important note

Operation of electrical lifting modules in synchronism see data sheet M 4.005

Capacity of the rechargeable battery

Based on the following diagrams, the possible number of cycles with a completely charged battery (5000 mAh) can roughly be determined. They are presented as a function of the different force levels and stroke lengths using an individually-operated lifting module as an example.

Attention!
When using 2 lifting modules in synchronism, the number of cycles determined must be halved.
When using the rechargeable battery with 3000 mAh, multiply the number of cycles determined by a factor of 0.67.
Lifting modules for a max. load of 1000 N are not suitable for synchronism.

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Rechargeable battery

Part no. 3822185 (5 Ah)
Part no. 3822186 (3 Ah)

Description

The rechargeable battery is a Li-Ion battery and is used with its 25.2 V and 5000 mAh (alternatively 3000 mAh) for ROEMHELD lifting modules as an energy source. The high capacity in a compact housing allows an efficient and flexible use.

Important notes

For charging of the batteries exclusively the quick battery charger part-no. **3822177** from ROEMHELD may be used.

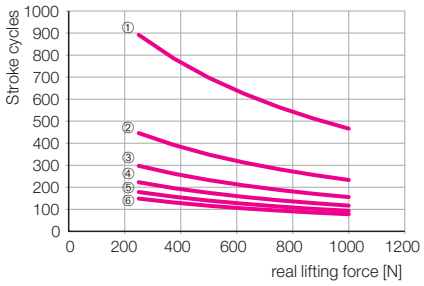
Technical data 3822185

Nominal voltage	25.2 V
Nominal capacity	5000 mAh
Charging current	max. 3A
Operating temperature Charging	10 °C…+40 °C
Operating temperature Discharging	0 °C…+50 °C
Storage temperature	–20 °C…+35 °C
Dimensions (L x W x H)	135x85x91 mm
Weight	approx. 860 g

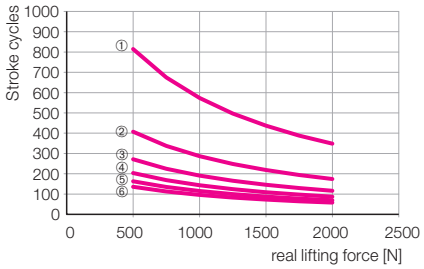
Technical data 3822186

Nominal voltage	25.2 V
Nominal capacity	3000 mAh
Charging current	max. 3A
Operating temperature Charging	10 °C…+40 °C
Operating temperature Discharging	0 °C…+50 °C
Storage temperature	–20 °C…+35 °C
Dimensions (L x W x H)	135x85x91 mm
Weight	approx. 860 g

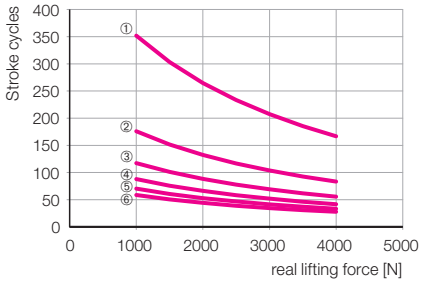
Lifting modules 1000 N



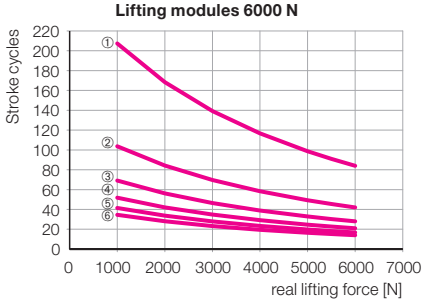
Lifting modules 2000 N



Lifting modules 4000 N



Lifting modules 6000 N



① = 100 mm stroke
② = 200 mm stroke
③ = 300 mm stroke
④ = 400 mm stroke
⑤ = 500 mm stroke
⑥ = 600 mm stroke

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Quick battery charger

Part no. 3822177

Description

The quick charger is used for recharging the rechargeable battery.

Technical data
Dimensions

Supply voltage	220…240 V ± 10 %
Frequency of the supply voltage	50…60 Hz
Output voltage	9.6…28.8 V
Charging current	2.9 A ± 10 %
Power limitation	max. 55…70 W
Charging time for 5 Ah	approx. 2 h
Ambient temperature Storage	–20 °C…+60 °C
Ambient temperature Operation	+5 °C…+40 °C
Protection class	II
Code class	IP30
Dimensions (L x W x H)	152x86x76 mm
Weight	approx. 500 g

Variants

Quick battery charger for use at 100…120 V AC 50…60 Hz

Part no. 3822182

Important notes

The battery charger is equipped with a Euro plug. A plug adaptor is country-specific required.