

DL12, DL14, DB14 and DL17 system
with CBD6S
User manual

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Preface

Dear User,

We are delighted that you have chosen a product from LINAK®. LINAK systems are high-tech products based on many years of experience in the manufacture and development of actuators, electric control boxes, controls and chargers.

This User Manual does not address the end-user. It is intended as a source of information for the manufacturer of the equipment or system only, and it will tell you how to install, use and maintain your LINAK electronics. It is the responsibility of the manufacturer of the end-user product to provide a User Manual where relevant safety information from this manual is passed on to the end-user.

We are sure that your LINAK product/system will give you many years of problem-free operation. Before our products leave the factory, they undergo full function and quality testing. Should you nevertheless experience problems with your LINAK product/system, you are always welcome to contact your local contact. LINAK subsidiaries and some distributors situated all over the world have authorised service centres, which are always ready to help you.

LINAK provides a limited warranty on its products. This warranty is, however, subject to correct use in accordance with the specifications, maintenance being done correctly, and any repairs being carried out at a service centre, which is authorised to repair LINAK products. Changes in installation and use of LINAK products/systems can affect their operation and durability. The products are not to be opened by unauthorised personnel. You can review the full terms of the LINAK warranty on the LINAK website www.linak.com/warranty.

The User Manual has been written based on our present technical knowledge. We are constantly working on updating the information and we therefore reserve the right to carry out technical modifications.

LINAK A/S

Valid for:

This User Manual is valid for the following products:

(See the first 3 - 5 characters on the label)

Columns: DL12, DL14, DL17

Built-in actuators: DB14

Control boxes: CBD6S 200 W, CBD6S 300 W

Controls: DPF1M/DPG1M/DPG1B (if memory function is required)
DP1CS/DPT/DPF1C/DPG1C (if memory function and display is required) or
DPA/DPB/DPH/DP1K/DPF1K/DPG1K (if only up/down is required) or DPF1D (if display is required).

Important information

Important information on LINAK® products can be found under the following headings:



Warning!

Failure to comply with these instructions may result in accidents involving serious personal injury.



Failing to follow these instructions can result in the product being damaged or being destroyed.

Safety instructions



General

Safe use of the system is possible only when the operating instructions are read completely and the instructions contained are strictly observed.

Failure to comply with instructions marked with the "NOTE" symbol may result in serious damage to the system or one of its components.



It is important for everyone who is to connect, install, or use the systems to have the necessary information and access to this User Manual. Follow the instructions for mounting – there is a risk of injury if these instructions are not followed.



The appliance is not intended for use by young children or infirm persons without supervision.



If there is visible damage to the product, do not install it.



Please note that during construction of applications in which the actuator is to be fitted, there must be no possibility of personal injury, for example squeezing of fingers or arms.



Assure free space for movement of the application in both directions to avoid blockades.

Before installation, reinstallation, or troubleshooting

- Stop the DB/DL
- Pull out the mains plug.
- Relieve the DB/DL of any loads, which may be released during the work.

Before start-up:

- Make sure that the system has been installed as instructed in this User Manual.
- Make sure that the voltage of the control box is correct before connecting the system to the mains.
- System connection. The individual parts must be connected before connecting the control box to the mains. See the User Manual for LINAK actuators, if necessary.

During operation:

- If the control box makes unusual noises or smells, switch off the mains voltage immediately.
- Take care that the cables are not damaged.
- Unplug the mains cable on mobile equipment before moving it.
- The products must only be used in an environment, that corresponds to their IP protection.

Misc.

The actuator system has a sound level below 55 dB(A) in typical applications.

Updated manuals and declarations can always be found here:

www.linak.com/deskline

Only for EU markets



This appliance can be used by children aged from aged 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.



Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Only for Non EU markets



Persons who do not have the necessary experience or knowledge of the product/products must not use the product/products. Besides, persons with reduced physical, sensory or mental abilities must not use the product/products, unless they are under surveillance or they have been thoroughly instructed in the use of the apparatus by a person who is responsible for the safety of these persons.



Moreover, children must be under surveillance to ensure that they do not play with the product.



It is the operator's responsibility to ensure that there is free space for the application to move without risk for the operator or bystanders before operating the application.

Misuse



Do not overload the actuators – this can cause danger of personal injury and damage to the system.



Do not use the actuator system for lifting persons. Do not sit or stand on a table while operating – risk of personal injury.



Do not use the system in environments other than the intended indoor use

Repairs

In order to avoid the risk of malfunction, all repairs must only be carried out by authorised LINAK service centres or repairers, as special tools must be used and special gaskets must be fitted. Products under warranty must also be returned to authorised LINAK service centres.

Further information on the LINAK warranty can be found on the LINAK website www.linak.com/warranty.



Warning!

If any of the DESKLINE® products are opened, there will be a risk of subsequent malfunction.



Warning!

The DESKLINE® systems do not withstand cutting oil.

Manufacturer's declaration

DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY

LINAK A/S
Smedevænget 8
DK - 6430 Nordborg

Herewith declares that LINAK DESKLINE® products as characterized by the following models and types:

Control Boxes: CBD6Sa000b0A-c09 (Where -a: can be P, C or H, -b: can be 2, 3 or 4 and -c: can be 0 or 7)

Linear Actuators: LA31

Built in actuator(s): DB5, DB6, DB14,

Lifting Columns: DL1A, DL4S, DL2, DL5, DL6, DL7, DL8, DL9, DL10, DL11, DL12, DL14, DL15, DL16, DL17, DL18, DL19, DL20, DL21

Desk Panels: DPA, DPB, DPH, DPF1K, DPF1M, DPF2K, DPF3K, DPF1C, DPF1D, DPF1U, DPF1W, DPF4T, DPG1K, DPG1M, DPG1B, DPG1C, DPT, DP1V01, DP1CS, DP1K, DP1U, DP2K, DP3K, DPN, DPWA

Accessories: BLE2LIN002, BLE2LIN003, DESK SENSOR 1, USB2LIN, DCCconnector

complies with the following parts of the Machinery Directive 2006/42/EC, ANNEX I, *Essential health and safety requirements relating to the design and construction of machinery*:

- 1.1.2 a) Special use*
- 1.1.2 b) Selection of the most appropriate methods*
- 1.1.2 c) Foreseeable misuse*
- 1.1.2 d) Operator constrains due to the use of personal protective equipment*

1.1.3 Materials and products*

- 1.2.1 Safety and reliability of control systems
- 1.2.2 Control devices. Shape, readability, overview*
- 1.2.3 Starting*
- 1.2.4 Stopping*

1.5.1 Electricity supply

1.5.10 Radiation. EMC. Emission of electromagnetic radiation, X-rays, γ-rays*

1.5.11 External radiation*

*need to be further evaluated in the end product

We confirm that prior to market introduction the relevant technical documentation is compiled in accordance with part B of Annex VII and the assembly instruction pursuant to Annex VI.

This documentation or part hereof will be transmitted by post or electronically to a reasoned request by the national authorities.

The products mentioned in this document are to be combined for use in height adjustable furniture.

This partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the Machinery Directive 2006/42/EC where appropriate.

Nordborg, 2020-10-28

LINAK A/S
Dragan Macura,
Regulatory Compliance Manager
Deskligne and Homeline Segments
Authorized to compile the relevant technical documentation

Original Declaration

EC Declaration of Conformity

EC DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8
DK - 6430 Nordborg

hereby declares under our sole responsibility that LINAK Actuator System for DESKLINE composed of:

Control Box(s)	CBD6Sa000b0A-c09, (Where -a: can be P, C or H, -b: can be 2, 3 or 4 and -c: can be 0 or 7)
And Linear Actuator(s)	LA31: 31abch-defff50S, (Where -a: can be 1, 3, 6 or 7; - b can be from 1 to 8, or A or B; - c can be from 0 to 4; - d can be 0 or 1; - e can be 0 or 1; - fff can be max 500)
Built in actuator(s)	DB5, DB6, DB14: DBabbdefghhhiii, (Where: - a: can be 5, 6 or 14; - b: can be 0, 1, 3 or 9; - c: can be 0, 1, B, L or S; - d: can be 0, 1 or 2; - e: can be 0, A, B or X; - f: can be 0, or A; - g: can be from 0, M, S or E; - hhh: can be from 000 to 675; - iii: can be from 000 to 630);
Lifting Column(s)	Standard columns: DLabcdeffghhhiii, (Where: - a: can be 1A, 4S, 5, 6, from 8 to 12, from 14 to 21; - b: can be 0, 2, 3 or 5; - c: can be 0, A, B, D, W or x; - d: can be 0, 1, L, R or X; - e: can be A, B, D or X; - f: can be 0, N, M, P or x; - g: can be 0 or E; - hhh: can be from 600 to 1100; - iii: can be from 000 to 785); DL12: DL12abcdeffghhh (where - a can be A or B; - b can be 0 or E; -c can be 0, L, R or X; - d can be A, B, D or X; - e can be 0 or M; - f can be 0 or E; - ggg can be max 1100; - hhh can be max 785) DL7: DL73a0b00470645 (where - a can be 0 or R; - b can be A, B, C or D) DL2: DL2abCdefffggg (where - a can be 3, 6 or 7; - b can be from 0 to 3; - c can be A or B; - d can be 0, F or G; -e can be from 0 to 7; -fff can be from 300 to 500; -ggg can be from 445 to 655) BASELIFT: BASE1000A0F100100
Desk Panel(s)	DPA, DPB, DPH, DPF1K, DPF1M, DPF2K, DPF3K, DPF1C, DPF1D, DPF1U, DPF1W, DPF4T, DPG1K, DPG1M, DPG1B, DPG1C, DPT, DP1V01, DP1CS, DP1K, DP1U, DP2K, DP3K, DPN, DPWA
Accessories	BLE2LIN002, BLE2LIN003, DESK SENSOR 1, USB2LIN, DCCconnector, CHUSB

Complies with EMC Directive: **2014/30/EU** according to following standards:

EN 61000-6-2:2005/AC:2005

EN 61000-6-3:2007/A1:2011/AC:2012

Complies with Low Voltage Directive **2014/35/EU** according to the standard:

EN 60335-1:2012+AC:2014+A11:2014+A13:2017+A1:2019 +A14:2019 +A2:2019

EN 62233:2008 + AC:2008

Complies with RoHS2 Directive **2011/65/EU** and RoHS3 Directive **2015/863** (amending Annex II to Directive 2011/65/EU) according to the standard:

EN 50581:2012

And the applicable Desk Panels and Accessories complies with the Radio Equipment Directive **2014/53/EU** according to the standards listed in the RED DoC for the individual radio products.

Additional information:

The system does also comply with the standard: EN 61000-6-2:2019 and

EN 13849-1:2015 SRP/CS Cat. B, PL = b and SRESW PL = b

Note 1: Exempted CBD6S with SW03003007 printed on the label.

Nordborg, 2021-11-24

LINAK A/S
Dragan Macura
Regulatory Compliance Manager
Desklime and Homeline Segments
Authorized to compile the relevant technical documentation

Original Declaration

UK Declaration of Conformity

UK DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8
DK - 6430 Nordborg

hereby declares under our sole responsibility that the LINAK Actuator System for DESKLINE composed of:

Control Box(s)	CBD6Sa000b0A-c09, (Where -a: can be P, C or H, -b: can be 2, 3 or 4 and -c: can be 0 or 7)
And Linear Actuator(s)	LA31: 31abch-defff50S, (Where -a: can be 1, 3, 6 or 7; -b can be from 1 to 8, or A or B; -c can be from 0 to 4; -d can be 0 or 1; -e can be 0 or 1; -fff can be max 500)
Built in actuator(s)	DB5, DB6, DB14: DBabcbdefghhiii, (Where: -a: can be 5, 6 or 14; -b: can be 0, 1, 3 or 9; -c: can be 0, 1, B, L or S; -d: can be 0, 1 or 2; -e: can be 0, A, B or X; -f: can be 0, or A; -g: can be from 0, M, S or E; -hhh: can be from 000 to 675; -iii: can be from 000 to 630);
Lifting Column(s)	Standard columns: DLabcdefghhiii, (Where: -a: can be 1A, 4S, 5, 6, from 8 to 12, from 14 to 21; -b: can be 0, 2, 3 or 5; -c: can be 0, A, B, D, W or x; -d: can be 0, 1, L, R or X; -e: can be A, B, D or X; -f: can be 0, N, M, P or x; -g: can be 0 or E; -hhh: can be from 600 to 1100; -iii: can be from 000 to 785); DL12: DL12abcbdefggghhh (where -a can be A or B; -b can be 0 or E; -c can be 0, L, R or X; -d can be A, B, D or X; -e can be 0 or M; -f can be 0 or E; -ggg can be max 1100; -hhh can be max 785) DL7: DL73a0b00470645 (where -a can be 0 or R; -b can be A, B, C or D) DL2: DL2abCcdfffggg (where -a can be 3, 6 or 7; -b can be from 0 to 3; -c can be A or B; -d can be 0, F or G; -e can be from 0 to 7; -fff can be from 300 to 500; -ggg can be from 445 to 655) BASELIFT: BASE1000A0F100100
Desk Panel(s)	DPA, DPB, DPH, DPF1K, DPF1M, DPF2K, DPF3K, DPF1C, DPF1D, DPF1U, DPF1W, DPF4T, DPG1K, DPG1M, DPG1B, DPG1C, DPT, DP1V01, DP1CS, DP1K, DP1U, DP2K, DP3K, DPN, DPWA
Accessories	BLE2LIN002, BLE2LIN003, DESK SENSOR 1, USB2LIN, DCCconnector

Complies with **Electromagnetic Compatibility Regulations 2016** according to following standards:
BS EN 61000-6-2:2005/AC:2005
BS EN 61000-6-3:2007/A1:2011/AC:2012

Complies with **Electrical Equipment (Safety) Regulations 2016** according to the standard:
BS EN 60335-1:2012+AC:2014+A11:2014+A13:2017+A1:2019 +A14:2019 +A2:2019
BS EN 62233:2008 + AC:2008

Complies with **The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012** according to the standard:
BS EN 50581:2012

And the applicable Desk Panels and Accessories complies with the **Radio Equipment Regulations 2017** according to the standards listed in the UK DoC for the individual radio products.

Additional information:

The system does also comply with the standard: BS EN 61000-6-2:2019 and
BS EN 13849-1:2015 SRP/CS Cat. B, PL = b and SRESW PL = b
Note 1: Exempted CBD6S with SW030003007 printed on the label.

Nordborg, 2021-11-24

LINAK A/S
Dragan Macura
Regulatory Compliance Manager
Deskligne and Homeline Segments
Authorized to compile the relevant technical documentation

Original Declaration

The RoHS mark is only applicable for the end product. Therefore, it must be obtained by the manufacturer of the end products. LINAK® can, however, supply the required material information on our products.

For more information, visit: <https://www.linak.com/about-linak/csr/declarations/>

or contact: chemicalcompliance@linak.com

Misc. on the DESKLINE® system

This system is a DESKLINE system developed for desks and for indoor use in offices. Do not use it in industrial kitchens or in other environments that have to be cleaned with aggressive detergents.

Do not bolt the legs to the floor so that free movement is prevented. This could cause serious damage to the legs in fault situations.

Warranty

This DESKLINE product is subject to warranty pursuant to the terms of LINAK DESKLINE Warranty Paper, available on the LINAK website www.linak.com/warranty.

Maintenance

Clean dust and dirt on the outside of the system at appropriate intervals and inspect them for damage and breaks. Inspect the connections, cables and plugs and check for correct functioning as well as fixing points.

Cleaning the desk panel

Clean your desk panel with a soft cloth. Universal cleaning detergents may be used.



For disinfection of the desk panel, use a 70 percent isopropyl alcohol either as a wipe or add a small amount to a soft cloth.



The desk panel is not a sealed unit and there are electronics inside it.

If liquids or moisture enter an opening, the PCB may be damaged, and the desk panel ruined.

Thus:

- Avoid moisture penetrating any openings as this may damage the PCB inside the desk panel
- Avoid spraying the cleaning agent or disinfectant directly on the desk panel as moisture may penetrate openings damaging the PCB inside the desk panel



- Cleaning agents and disinfectants must not be highly alkaline or acidic (pH value must be 6 to 8), and they must not contain bleach or chlorine
- Do not use hand sanitizer gel as a cleaning agent

Service of double-insulated products:



Class II

A Class II or **double insulated** electrical appliance is one which has been designed in such a way that it does not require a safety electric earth connection (US: ground).

The basic requirement is that no single failure can result in dangerous voltage becoming exposed so that it might cause an electric shock and that this is achieved without relying on an earthed metal casing. This is usually achieved at least in part by having two layers of insulating material surrounding live parts or by using reinforced insulation.

There is no earthing/grounding means provided on the product, and no earthing/grounding means is to be added to the product.

In Europe, a double insulated appliance must be labelled "Class II", "double insulated" or bear the double insulation symbol (a square inside another square).

Servicing a double-insulated product requires extreme care and knowledge of the system, and is to be done only by qualified service personnel. Replacement parts for a double-insulated product must be identical to the parts they replace.

ETL-marking

Due to space limitations, the complete ETL-marking demands are not represented on the marking plates.
The full ETL Recognized Component markings are shown here.



C/N 120690
Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09
ETL Recognized Component mark for Canada and United States



C/N 9901916
Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09
ETL Recognized Component mark for Canada and United States



C/N 4008003
Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09
ETL Recognized Component mark for Canada and United States



C/N 4008004
Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09
ETL Recognized Component mark for Canada and United States



C/N 4008005
Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09
ETL Recognized Component mark for Canada and United States



C/N 4008671
Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09
ETL Recognized Component mark for Canada and United States



C/N 4009507
Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09
ETL Recognized Component mark for Canada and United States

Description of the DESKLINE® system

Each DESKLINE® actuator/column is equipped with a motor and parallel/memory drive is ensured by means of software in the CBD6S (SMPS) that also takes account of an oblique load on the desk. Soft start and stop are also part of this software, which ensures a soft start and stop when adjusting the desk.

Application of the DESKLINE® system:

Irrespective of the load, the **duty cycle 10% ~ 1 minute continuous use at full load, followed by 9 minutes pause** stated in the data sheets, must **NOT** be exceeded as this will result in a superheating of the motor and the control box. Exceeding the duty cycle will result in a dramatic reduction of the life of the system.

The DB/DL system range contains following products:

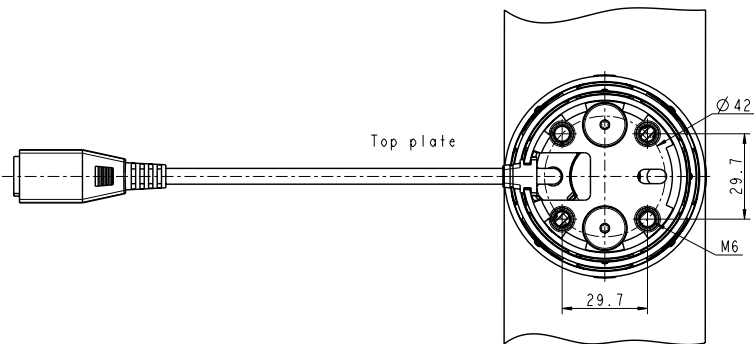
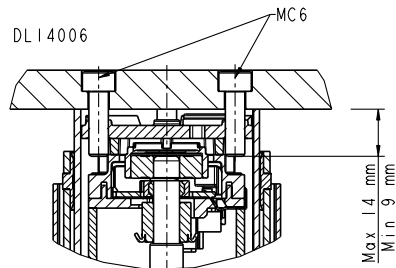
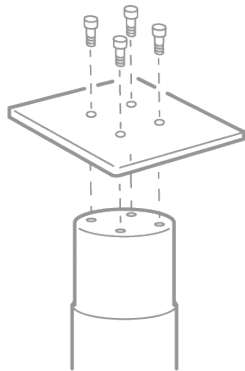
- 1 control box CBD6S 200 W or CBD6S 300 W (SMPS - Switch Mode Power Supply)
- DL12, DL14, DL14 PLUS™, DB14 or DL17 (1 - 4)
- 1 exchangeable mains cable
- Motor cables (1 - 4)
- DP1U/DPF1M/DPG1M/DPG1B (if memory function is required)
DP1C/DPT/DPF1C/DPG1C (if memory function and display is required) or
DPA/DPB/DPH/DP1K/DP1V/DPF1K/DPG1K (if only up/down is required) or DPF1D (if display is required).

Installation of the DL14 system

Mounting the top

The DL14 top is supplied with four M6 threaded holes for mounting onto the top frame.

- 1. Mount the column top on the top frame using four M6 screws or two M8 screws with the following specifications:
Quality: Min. grade 8.8
Length: Min. 9 mm (plus top frame thickness);
Max. 14 mm (plus top frame thickness)
- 2. Fasten the screws thoroughly (torque: max. 10 Nm).

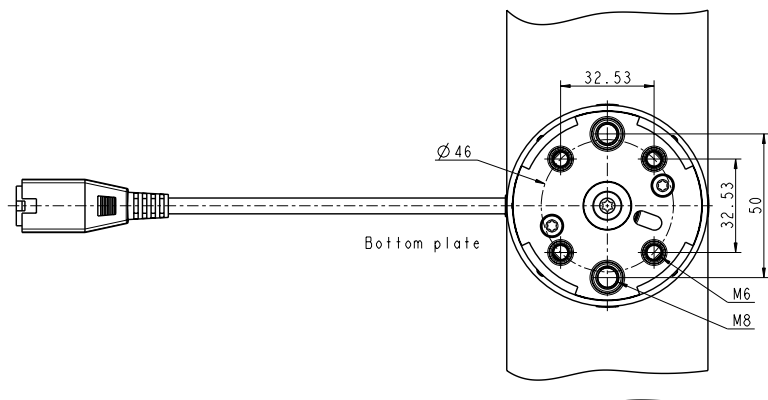


Mounting the foot

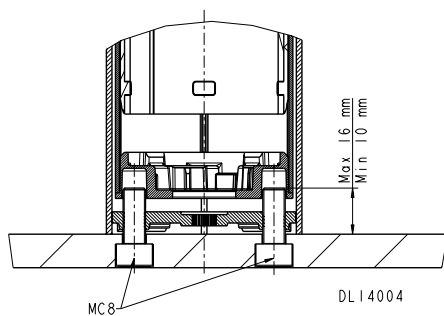
The DL14 bottom plate is supplied with four M6 and two M8 threaded holes.

1. Mount the column bottom on the desk feet using four M6 screws with the following specifications:
Quality: Min. grade 8.8
Length: Min. 10 mm (plus desk feet thickness);
Max. 16 mm (plus desk feet thickness)
2. Fasten the screws thoroughly (torque: max. 10 Nm)

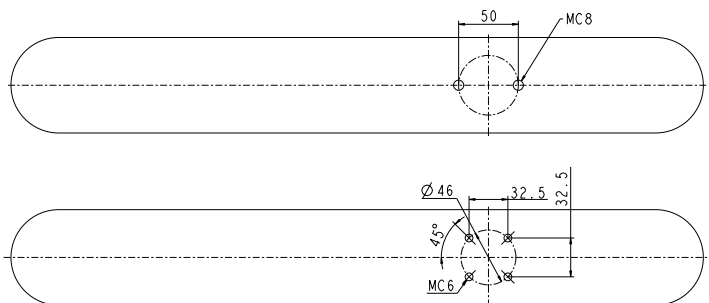
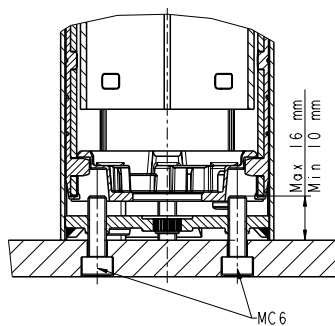
The holes in the foot must be sufficiently larger than $\varnothing 6$ to enable levelling of the assembled desk..



Mounted with two M8 screws



Mounted with four M6 screws

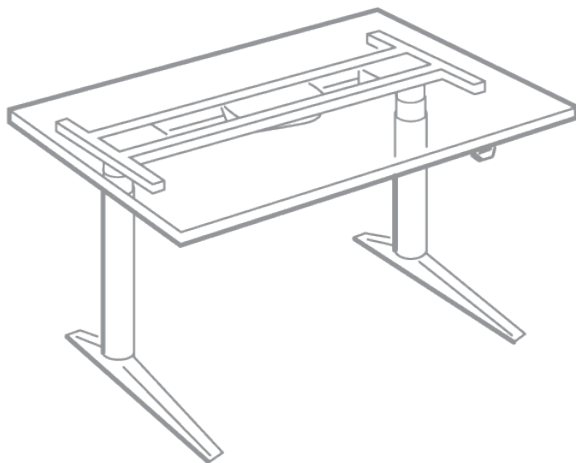


DL14003

Mounting the tabletop

The sound from the lifting column spreads as vibrations to the tabletop which amplifies the sound. This can, however, be reduced.

1. Place vibration/shock-absorbing material between tabletop and top frame.



Assembled desk

Installation of the DL12 system

Mounting the top

The DL12 top plate is supplied with four M6 threaded holes for mounting onto the top frame.

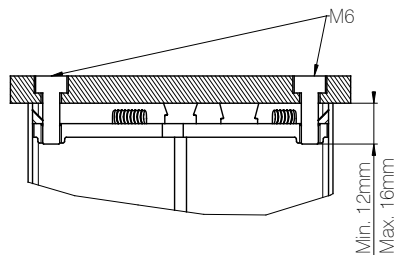
1. Mount the column top on the top frame using four M6 screws with the following specifications:

Quality: Min. grade 8.8

Length: Min. 12 mm (plus top frame thickness);

Max. 16 mm (plus top frame thickness)

2. Fasten the screws thoroughly (torque: max. 10 Nm).



Mounting the foot

The DL12 bottom plate is supplied with four M6 threaded holes.

1. Mount the column bottom on the desk feet using four M6 screws with the following specifications:

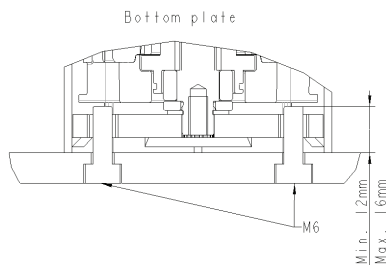
Quality: Min. grade 8.8

Length: Min. 12 mm (plus desk feet thickness);

Max. 16 mm (plus desk feet thickness)

2. Fasten screws thoroughly (torque: max. 10 Nm).

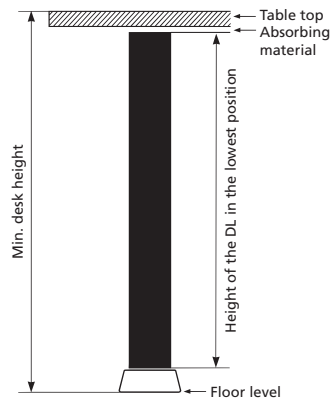
The holes in the foot must be sufficiently larger than Ø6 to enable levelling of the assembled desk.



Mounting the desk

The sound from the lifting column spreads as vibrations to the tabletop which amplifies the sound. This can, however, be reduced.

1. Place vibration/shock-absorbing material between tabletop and top frame.



Installation of the DL17 system

Mounting the top

The DL17 top is supplied with four M6 threaded holes for mounting onto the top frame.

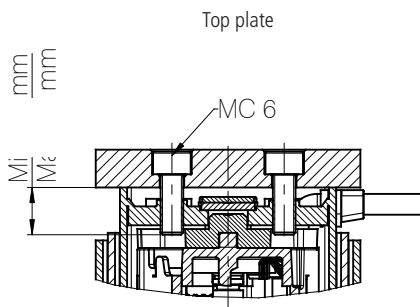
1. Mount the column top on the top frame using four M6 screws with the following specifications:

Quality: Min. grade 8.8

Length: Min. 10 mm (plus top frame thickness);

Max. 14 mm (plus top frame thickness)

2. Fasten the screws thoroughly (torque: max. 10 Nm).



Mounting the foot

The DL17 bottom plate is supplied with four M6 and two M8 threaded holes.

1. Mount the column bottom on the desk feet using four M6 screws or two M8 screws with the following specifications:

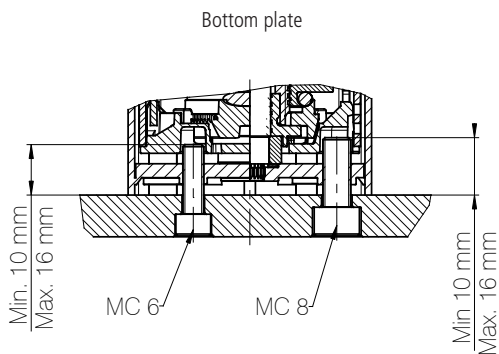
Quality: Min. grade 8.8

Length: Min. 10 mm (plus desk feet thickness);

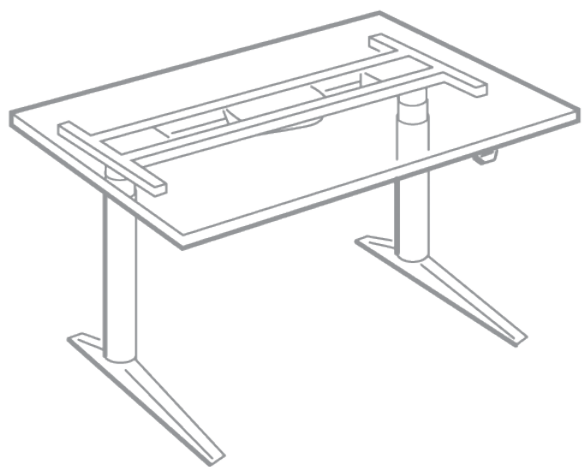
Max. 16 mm (plus desk feet thickness)

2. Fasten the screws thoroughly (torque: max. 10 Nm).

The holes in the foot must be sufficiently larger than $\varnothing 6$ to enable levelling of the assembled desk.

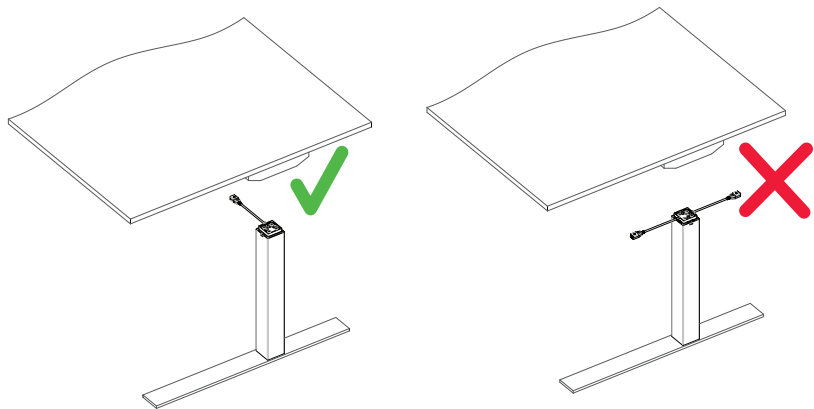


As the desktop amplifies the sound, we advise you to place a vibration/shock absorbing material between the desktop and the desk frame.



(Example of how to mount the DESKLINE® system)

When the DL17 is mounted on the tabletop and feet, we recommend orienting the column so that the cable is pointing towards the centre of the desk.



Mounting guidelines for the DB14



For detailed information on how to mount the DB14, please contact DESKLINE Technical Support at LINAK A/S.



Please note: The screws and rubber washers for mounting the DB14 in profiles must be ordered separately, please contact DESKLINE Technical Support at LINAK A/S.

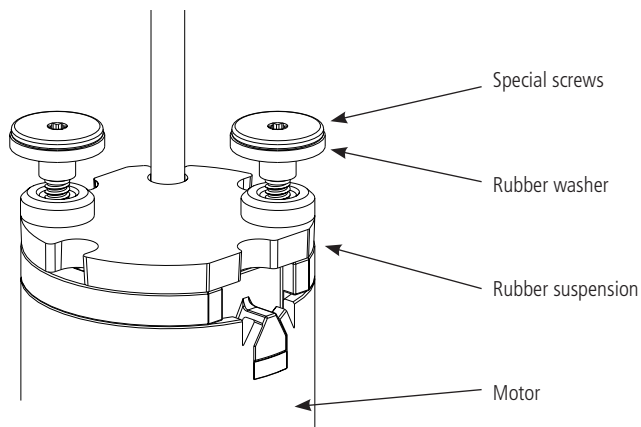
Example of an assembled DESKLINE® system



Mounting the top

The top of the motor is supplied with holes for the self-tapping special screws.

On the top of the motor there is the special rubber suspension, which should always be used when the DB14 is mounted in a column. The rubber suspension is grey; a grey rubber suspension means no PIEZO. The top flange onto which the motor is mounted must be 4 mm thick ± 0.1 mm, and the two mounting holes should be $\varnothing 12$ mm with a centre distance of 36 mm. The torque is 2 Nm ± 0.1 Nm.



Mounting the middle tube

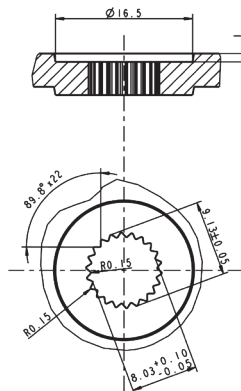
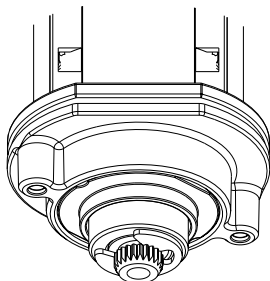


The DB14 gives the possibility of synchronous drive of the middle profile. To make sure that the profiles are in the right place, you have to ensure that both the hollow and the solid spindle are driven into end position. For detailed information on how to mount the middle tube of your column, please contact DESKLINE Technical Support at LINAK A/S.

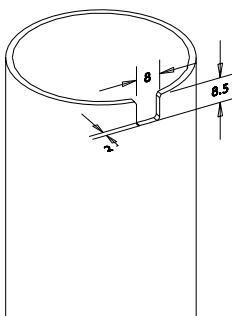
Mounting the bottom

At the bottom of the DB14 the inner spindle should be mounted by means of a 22 teeth spline profile and an M5 screw in the bottom of the spindle. Max. torque: 2.3 Nm.

The bottom plate should have a groove for the locking ring.



Bottom plate with groove and spline



A cut-out in the inner profile is required for cable relief.

Note:



From the factory, the DB14 is delivered with the hollow spindle driven into end position. Please observe that the solid spindle may roll out during transportation/handling, but it must be rolled back to end position before mounting in the profile.



As the desktop amplifies the sound, we advise you to place a vibration/shock absorbing material between the desktop and the desk frame



Do not drive the DB14 to the outer end position before mounting. This will damage the DB.

Installation of CBD6S (SMPS)



Do not pack the CBD6S in heat insulating material.
Place the CBD6S so it can emit heat through its surface to the surroundings.

Mounting the CBD6S

1. Plug the mains cable into the CBD6S.
2. Place the mains cable in the groove for cable relief.



3. If needed, place the other cables in the grooves to optimise the desk design and manage the system cables.



4. Mount the CBD6S using two screws with a head diameter of 10 mm (8 to 10 mm can be used).
5. Fasten the mounting screws (max. torque 1 Nm).

Notes:

- If the control box is mounted in a top frame bar with the width of the motor housing, it can be mounted with one screw only
- The surface to which the control box is mounted should have an evenness better than ± 0.5 mm
- The control box can also be mounted using one or two M6 nuts and screw counterparts, see Dimensional drawings
- The mains plug must be accessible when the CBD6S is mounted so that the supply to the CBD6S can be disconnected if replacement is required.

For mounting and operation of the desk panel, please see the separate user manual for desk panels.

Electric connection of the DB/DL system



The control box must only be connected to the voltage stated on the label.



It is important to ensure that the motor cables are fixed, but not tightened, near the control box **and** near the columns.

Fix the cable to the tabletop using a clip observing the **30 mm minimum bending radius (R)**.



Connecting the system

1. Connect the first DL/DB to socket 1 next to port A2 on the control box using the 6-pin plug on the motor cable.
Channel 1 is the channel closest to the control port.
2. Connect further DL/DB to sockets 2, 3 and 4 in sequence.
3. Connect the desk panel to control port A1 or control port A2.
4. Check that the voltage stated on the label corresponds to the mains power.
If not, do **not** plug in mains cable.
5. Plug in the mains cable.
6. Switch on the power.

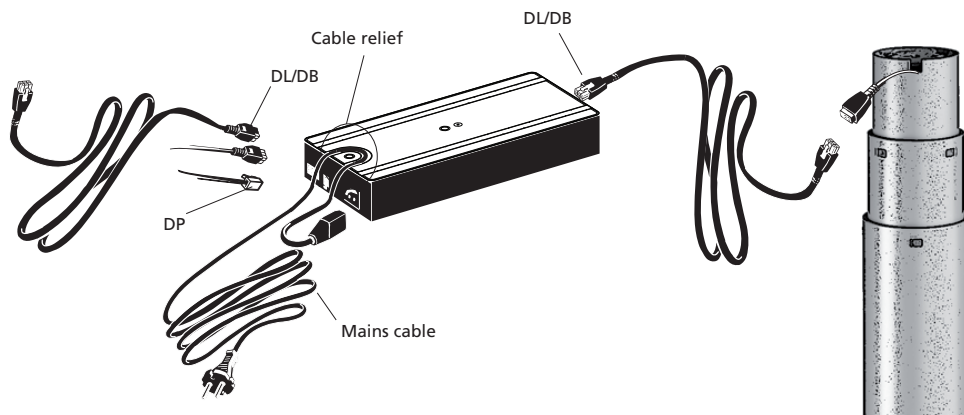


Figure 7

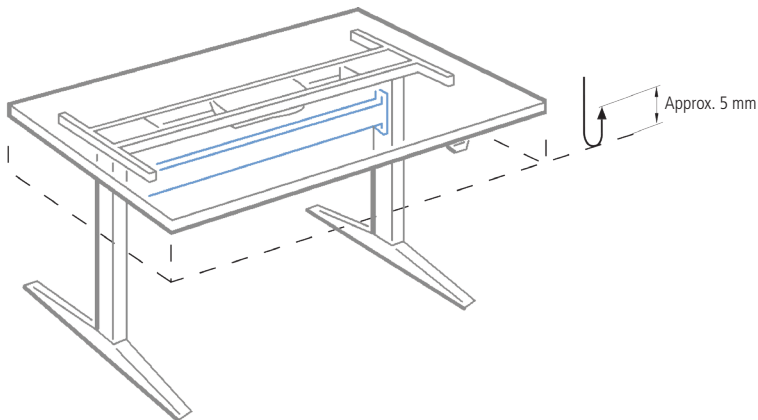
Initialisation of the DESKLINE® parallel system

Downward direction

The DESKLINE system is initialised by pressing the down button once and holding it down until the lifting column runs into end stop. Release the button and press down again within 10 seconds. The desk will run further in and then run approx. 5 mm out again. Only release the down button when the movement has stopped completely.



If the button is released before the sequence is completed, the initialisation is interrupted and must be started again from the beginning.



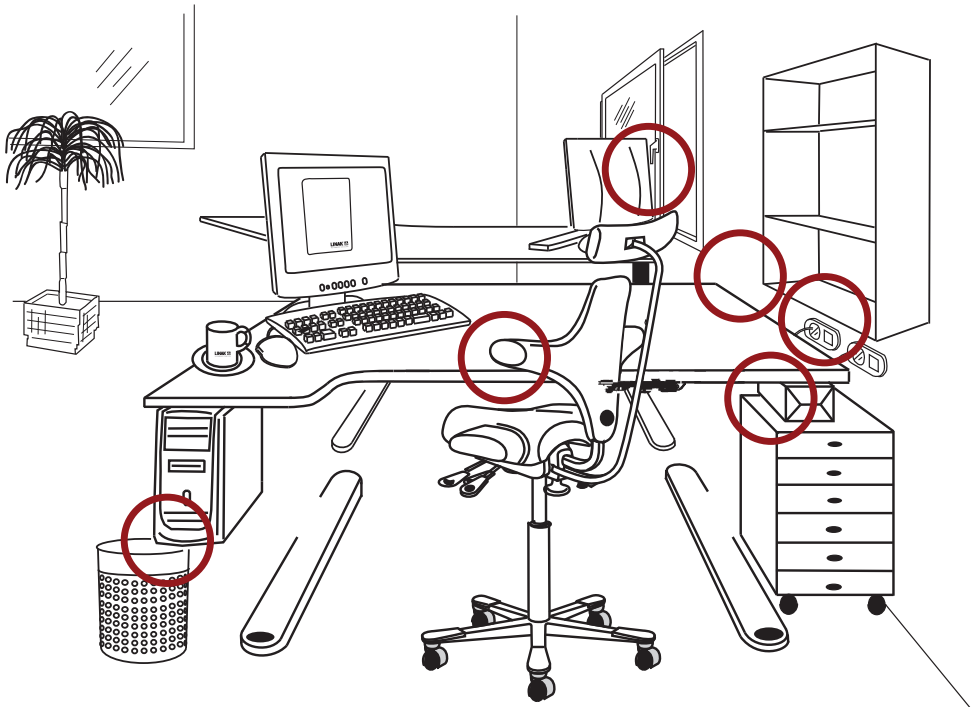
Upward direction

PIEZO columns (IID):

No initialisation in upward direction required.

Anti-collision

When using height-adjustable desks there is always a risk of driving the desk into an object – solid or soft. This could cause damage to the desk or the object or – if the desk tilts – damage to computers, monitors and other objects placed on or close to the desk.



There are various ways of protecting the desk from being damaged when driven into such objects. This feature is called an anti-collision system. To a certain extent, this feature also increases the personal safety, but it does not comply with the legislation covering personal safety.

The way to minimise the damage to a desk is fast detection of a collision with an object followed by reverse driving of the desk.

LINAK® offers various anti-collision solutions:

- Desk Sensor™ 1 (Gyroscope technology)
- PIEZO™ (Piezo-electric sensor)
- Anti-Collision™ (Software)

Desk Sensor™ 1



The Desk Sensor™ 1 (DS1) is a small, compact adapter to be plugged into the control box or, in IC systems, into the master column. The DS1 is based on gyroscope-technology, and it detects even little tilting of the desk when the desk is driving up or down. Upon detected tilting, the system stops and drives in the opposite direction to avoid collision and damage to the desk or the object. The DS1 can detect both hard and soft obstacles, and it works with both 2-part and 3-part columns.

Optionally, the DS1 can also be combined with the well-known PIEZO™ technology ensuring an even higher level of anti-collision.

PIEZO™



The PIEZO-electric sensor is an electronic sensor integrated in the column, which reacts on load changes. If the desk drives into an obstacle, the load changes. This load change is picked up by the PIEZO-electric sensor and the signal is sent to the control box.

For optimised safety against squeezing and blocking on a desk, LINAK has developed DL12, DL14 and DL17 columns with integrated sensor, called PIEZO. The option minimises the risk for damages on a desk caused by squeezing or blocking of obstacles in up and down direction. Examples could be driving down into an office chair or into a container or up into a windowsill. To a certain extent, the system also increases the personal safety, but it does not comply with legislation describing personal safety.

PIEZO allows the DL12, DL14 and DL17 columns to have the standard built-in dimension and the standard stroke length. There are no visible changes to the column.

Anti-Collision™

This function is an option for the standard CBD6S (SMPS) control box.

Enabling the anti-collision

To enable the anti-collision function a little plug called a dongle must be mounted in one of the 2 control ports. The function is only active when the dongle is mounted. – If you remove the dongle again you disable the function.

Method of operation

When the lifting columns are running the CBD6S (SMPS) monitors the current consumption on each channel using a special algorithm. If the current consumption on one channel is increased more than a predefined slope, a collision is assumed, and all channels are stopped immediately, and all lifting columns will start to run in the opposite direction (approx. 50 mm). This return drive is done automatically and continues with or without any control key pressed (for max. 2.5 sec.).

The anti-collision sensitivity is different in upward and downward direction. In downward direction the software is less sensitive and requires a higher load to activate the function. Thus, the Anti-Collision™ is not recommended for applications with light-weight desks.

The Anti-Collision function is not activated if the collision happens:

- during the initialisation procedure
- within the first second of desk panel activation (ramp-up time) or within the first second after the desk panel has been released (ramp-down time)
- in downward direction and the load at the point of collision is too low
- over too long time, e.g., if the collision is with a soft object

Accessories

Ordering accessories

Order from your nearest LINAK® contact, distributor or subsidiary.

Accessories

Please contact your nearest LINAK contract, distributor or subsidiary.



Warning!

By unauthorised opening of the system there is a risk that it may malfunction at a later date.

Spare parts

Please contact your nearest LINAK contact for information on spare parts.

Disposal of LINAK product

As LINAK customers often ask us how our products can be disposed or scrapped we have prepared this guide that enables a classification to different waste fractions for recycling or combustion.

Guide

We recommend that our products be disassembled as much as possible and divided into different waste groups for recycling or combustion.

For example, waste can be sorted into metals, plastics, cable scrap, combustible materials and recoverable resources.

Some of these main groups can be further divided into subgroups; e.g. metal can be divided into steel/aluminium/copper and plastic can be divided into ABS/PA/PE/PP.

As an example, the table below breaks down the different components in LINAK products to various recycling groups:

Product	Components	Recycling group
Column/ Actuator :	Spindle and motor Plastic housing Cable PC boards	Metal scrap Plastic recycling or combustion Cable scrap or combustion Electronic scrap
Control Box :	PC boards Plastic housing Cable Transformer	Electronic scrap Plastic recycling or combustion Cable scrap or combustion Metal scrap
Handset/Control :	Plastic housing Cable PC boards	Plastic recycling or combustion Cable scrap or combustion Electronics scrap

By now, almost all our cast plastic parts are supplied with an interior code for plastic types and fibre contents, if any.

Main groups of disposal

Product main groups	Metal scrap	Cable scrap	Electronics scrap	Plastic recycling or combustion	Comments
DL12	X	X	X	X	
DL12XL	X	X	X	X	
DL14	X	X	X	X	
DB14	X	X	X	X	
DL17	X	X	X	X	
CBD6S (SMPs)			X	X	
DPXX		X	X	X	

Disposal of batteries

Details regarding safe disposal of used and leaking batteries:

Batteries should be disposed in accordance with appropriate federal, state and local regulations. LINAK recommends that used or leaking batteries are disposed through local recycling system. Please do not throw used or leaking batteries in normal household waste or in nature. This will cause damage to the environment.

How to deal with leaking batteries

Leaking batteries should be disposed as described above.

If leaking batteries are discovered in the products, the batteries must be moved immediately to minimise damage to the product. If leaking batteries are left in the product it might become defect.

It is recommended to use plastic gloves when handling of leaking batteries. The contents of a leaking batteries can cause chemical burns and respiratory irritation.

If exposed to the contents of a leaking battery, please wash with soap and water. If irritation persists, please seek medical attention. In case of eye contact, please flush eyes thoroughly with water for 15 minutes and seek medical attention.

Labels

Label for DL12



WE IMPROVE YOUR LIFE
DESIGNED IN DENMARK

Duty Cycle: 10 %
Max. Load : 700 N



DL12000A0E660518
2013.10.07
P.O.12345678-0001
S.O.12345678

Label for DL17




WE IMPROVE YOUR LIFE
DESIGNED IN DENMARK

Duty Cycle: 10 %
Max. Load : 700 N




DL17000A0E660518
2013.10.07
P.O.12345678-0001
S.O.12345678

Label for DB14




WE IMPROVE YOUR LIFE

Item No. : DB1400000660508
Prod. Date : 2009.05.12
Max. Load : 700 N (Push only)
Power Rate : 18 V= Max.10 Amp
Duty Cycle : 10%, max. 2 min. / 18 min.
NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL
MADE BY LINAK A/S DENMARK
P.O.95143-0001




Label for DL14



WE IMPROVE YOUR LIFE

Item No. : DL14000A0660525
Prod. Date : 2009.05.12
Max. Load : 700 N (Push only)
Power Rate : 18 V= Max.10 Amp
Duty Cycle : 10%, max. 2 min. / 18 min.
NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL
MADE BY LINAK A/S DENMARK
P.O.95143-0001



Label for CBD6S 200 W (SMPS)



GROUP HEADQUARTERS
SMEDEVAENGET 8
DK 6430 NORDBORG

WE IMPROVE YOUR LIFE
DESIGNED IN DENMARK

Item : CBD6SP00020A-009
Date : 2012.11.09
U In : 230 V~, 50 Hz
P In : 300 W
U Out: 12 V= - 40 V=
Op. : Int. 10 %, Max. 2 min. / 18 min.
S.W. P/N.: 03002000 Ver. B1.00



0.1 W
Standby
Power

NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL



P.O.1234567-0001 MADE BY LINAK A/S DENMARK

Label for CBD6S 300 W (SMPS)
up to 4 channels



GROUP HEADQUARTERS
SMEDEVAENGET 8
DESIGNED IN DENMARK DK 6430 NORDBORG

Item : CBD6SP00020A-709
Date : 2014.02.07
U In : 90 V - 240 V~, 48 Hz - 63 Hz
P In : 450 W
U Out: 12 V= - 40 V=
Op. : Int. 10 %, Max. 2 min./18 min.
S.W. P/N.: 03002009 Ver. XXX



NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL

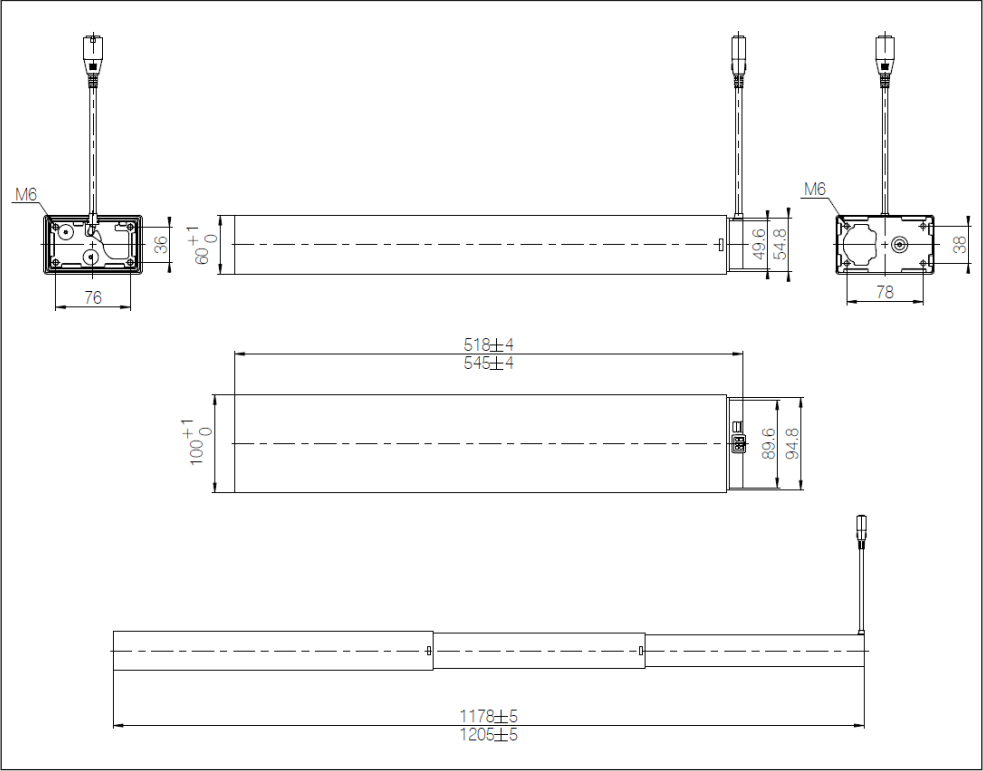


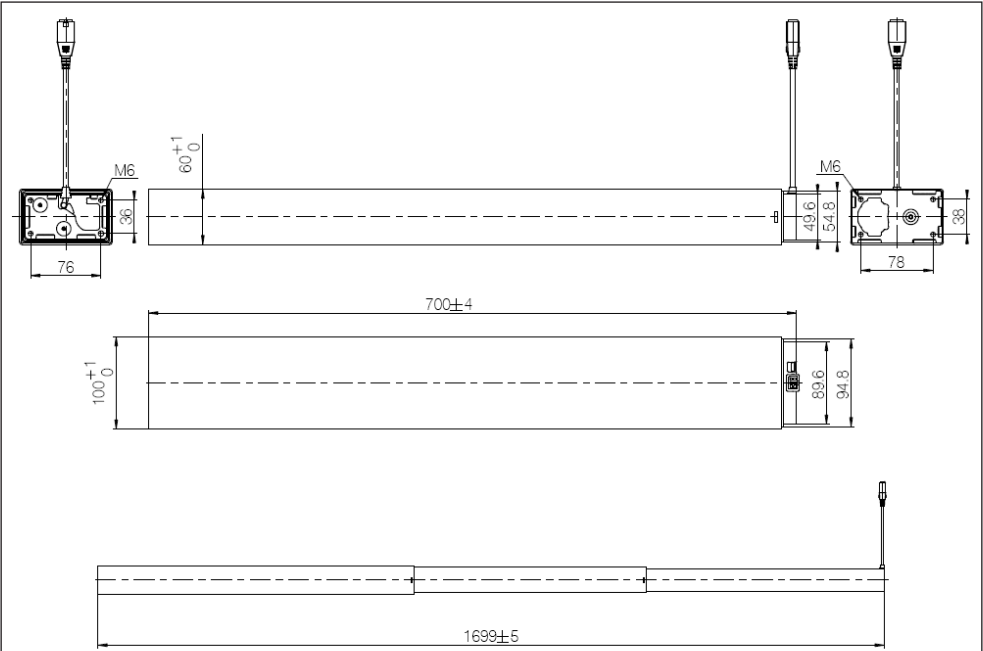
P.O.-0000

Assembled in China 01

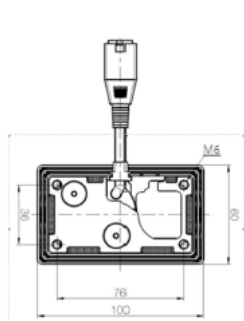
DRAWING APPENDIX

DL12

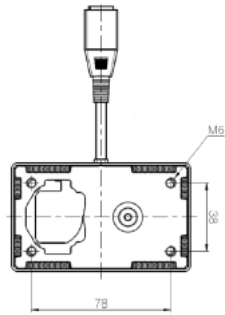




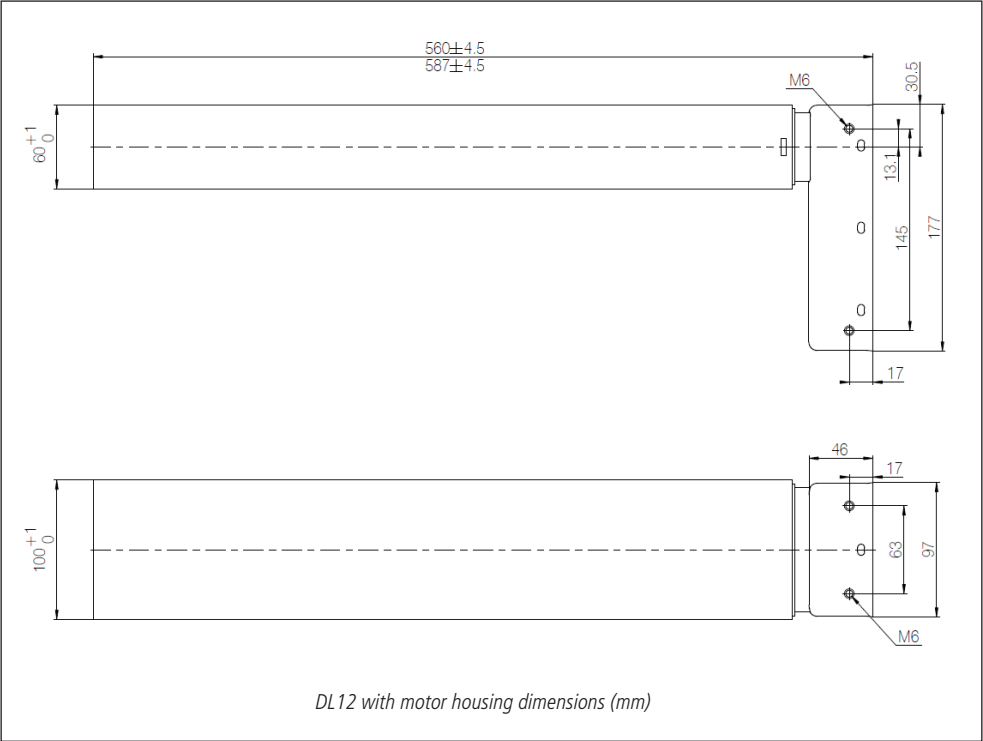
DL12XL dimensions (mm)



Column top dimensions (mm)

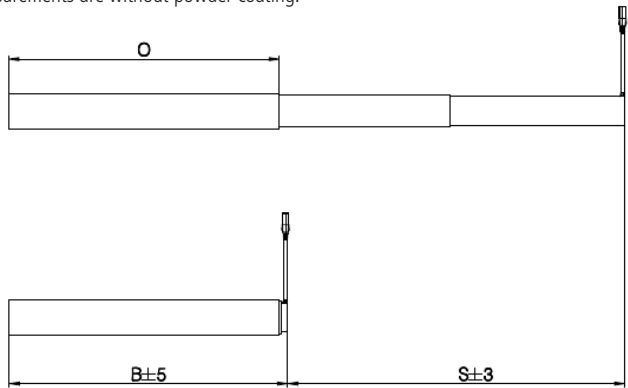


Bottom plate dimensions (mm)

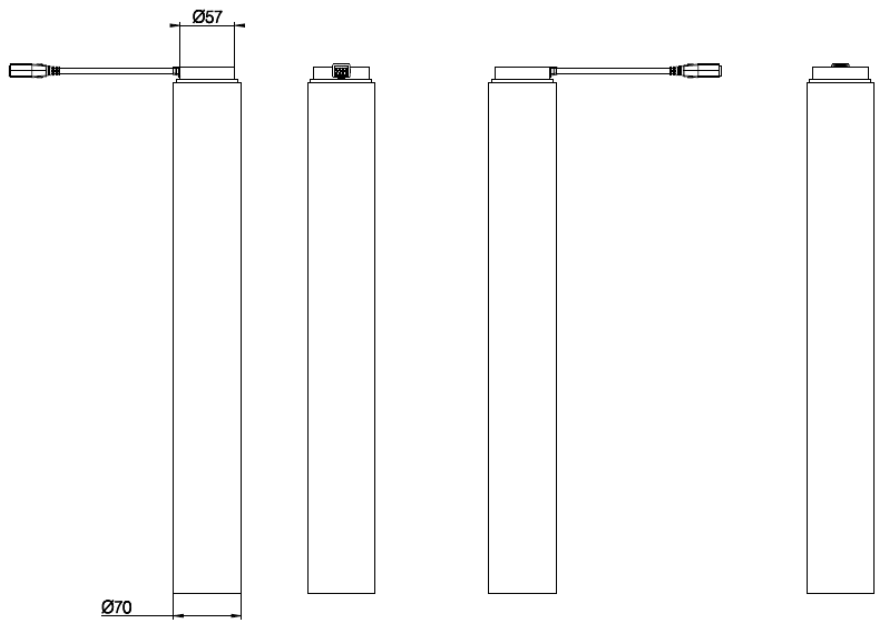




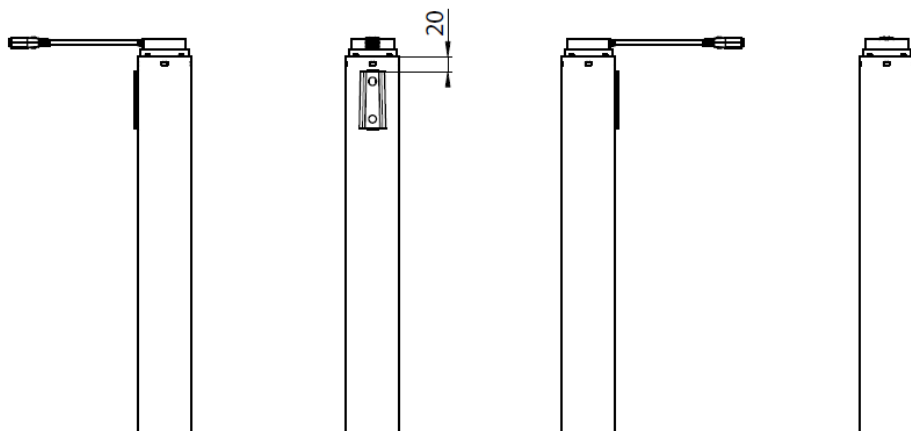
All measurements are without powder coating.



Version	Combination code	S (Stroke length) [mm]	B (Built-in length) [mm]	O (Outer profile length) [mm]
Standard columns				
EU	DL14xxxxx660525	525	660	498
PLUS columns				
EU	DL14xxxxx660545	545	660	529
BIFMA	DL14xxxxx660518	518	660	502

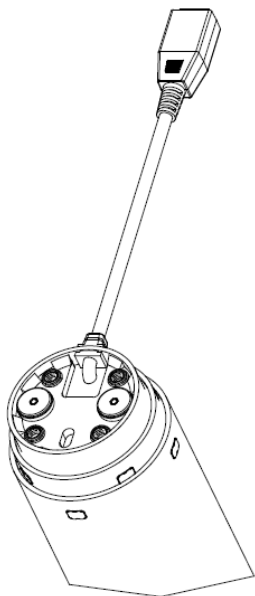


DL14 profile dimensions (mm)

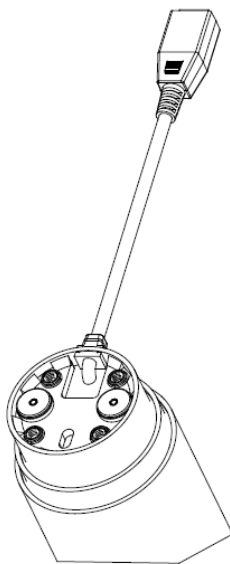


Combination code	Std bracket
DL14xx1xxxxxxxxx	X

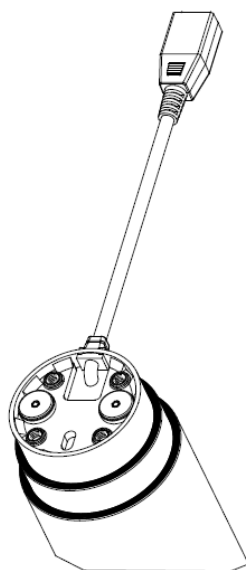
Bracket options (dimensions in mm)



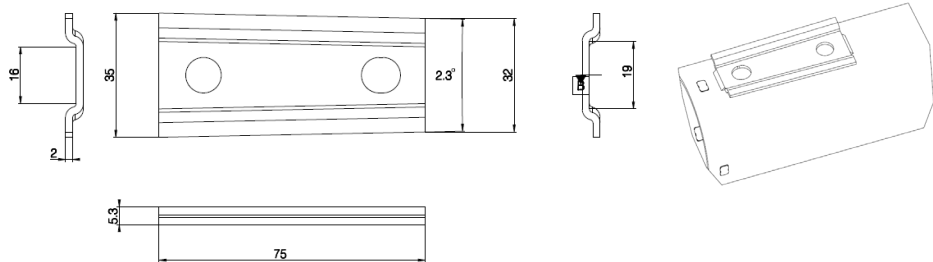
Standard



*PLUS™ without trim ring
Profile designs*



PLUS™ with trim ring

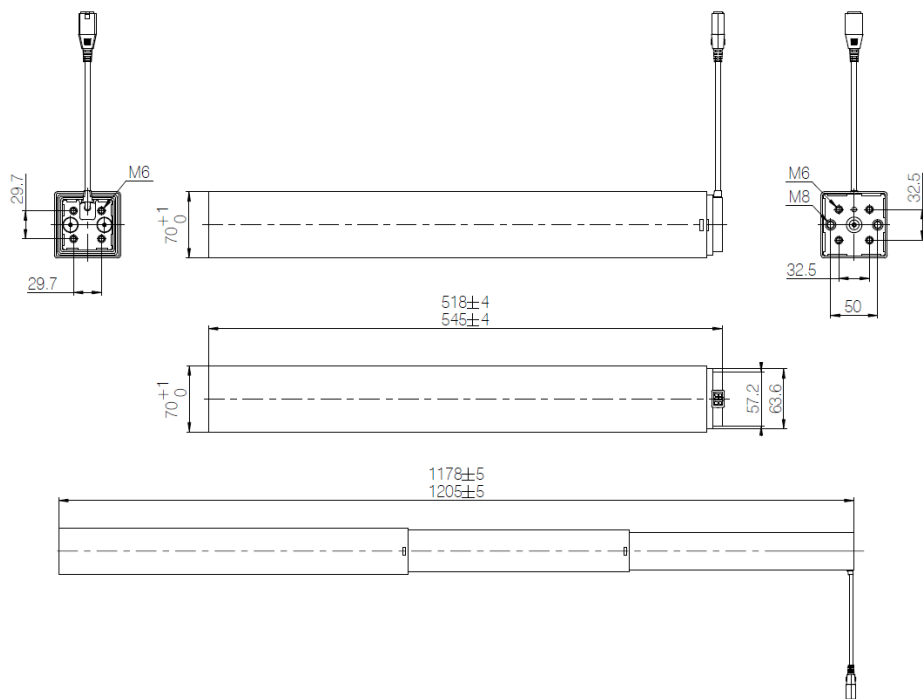


Standard bracket dimensions (mm)

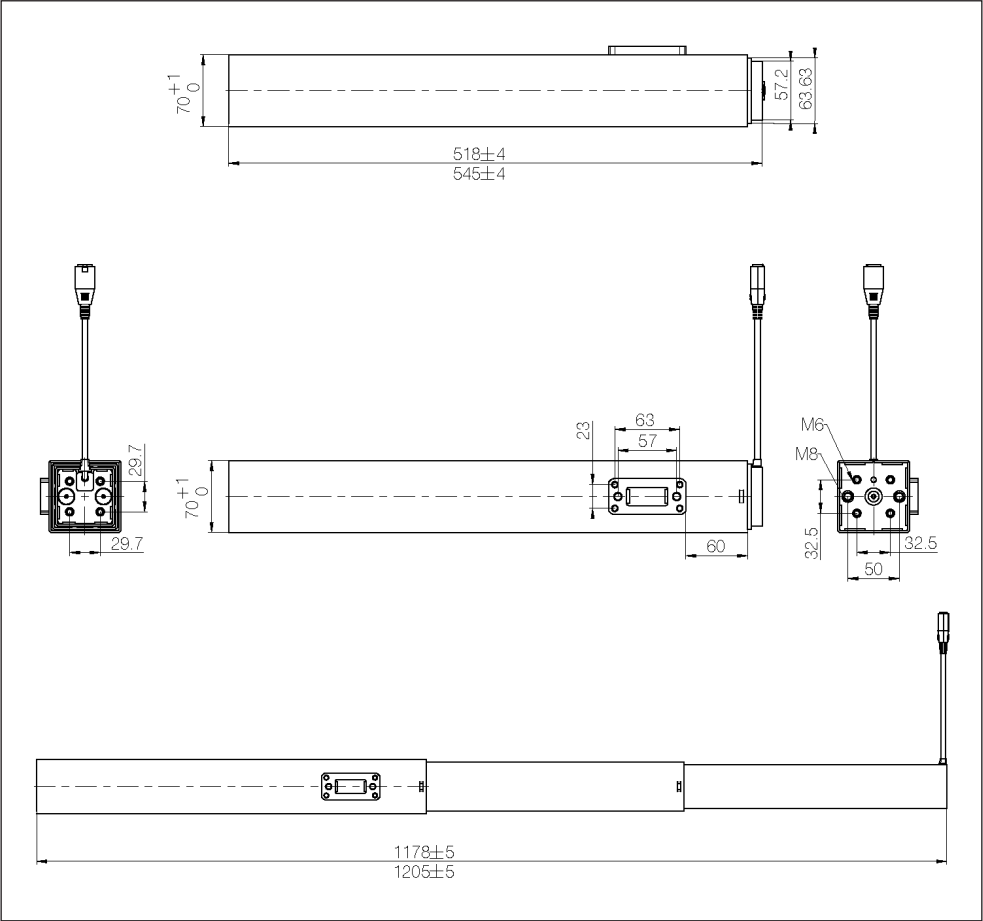


The bracket is not available with PLUS™ columns.

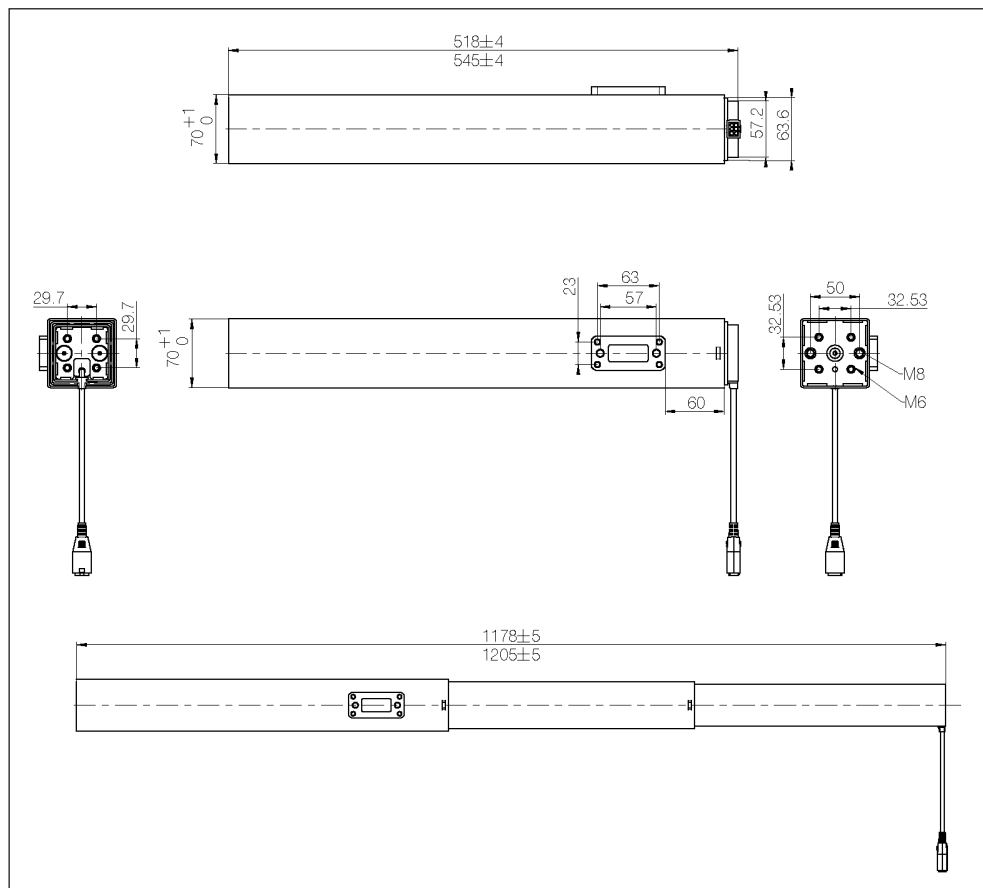
DL17 without bracket



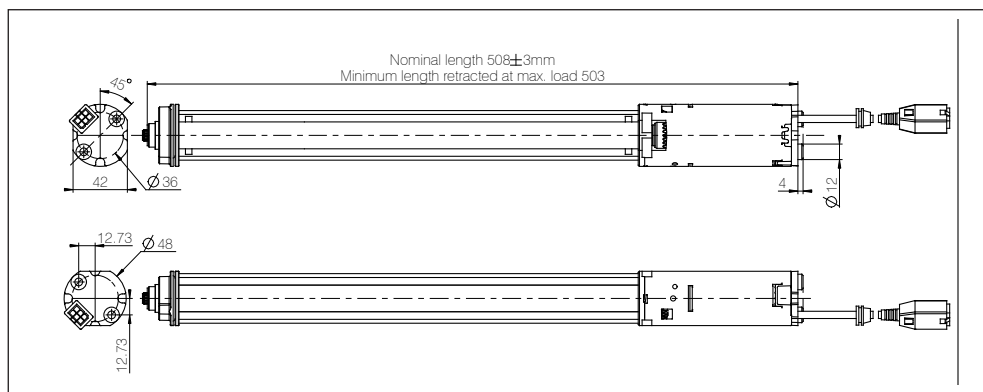
DL17 with bench bracket
Left column

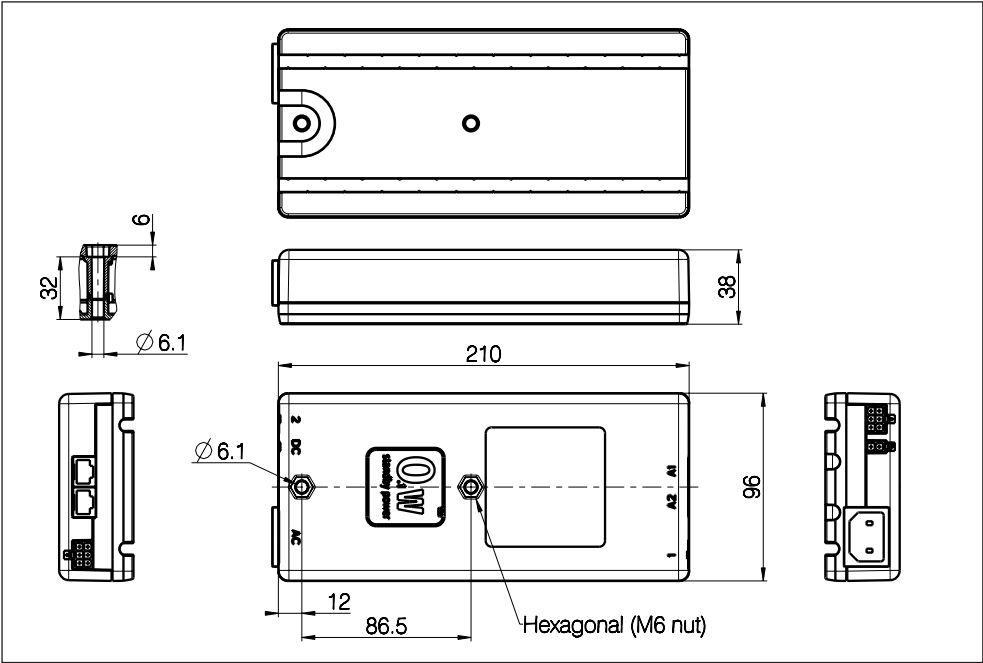


DL17 with bench bracket
Right column

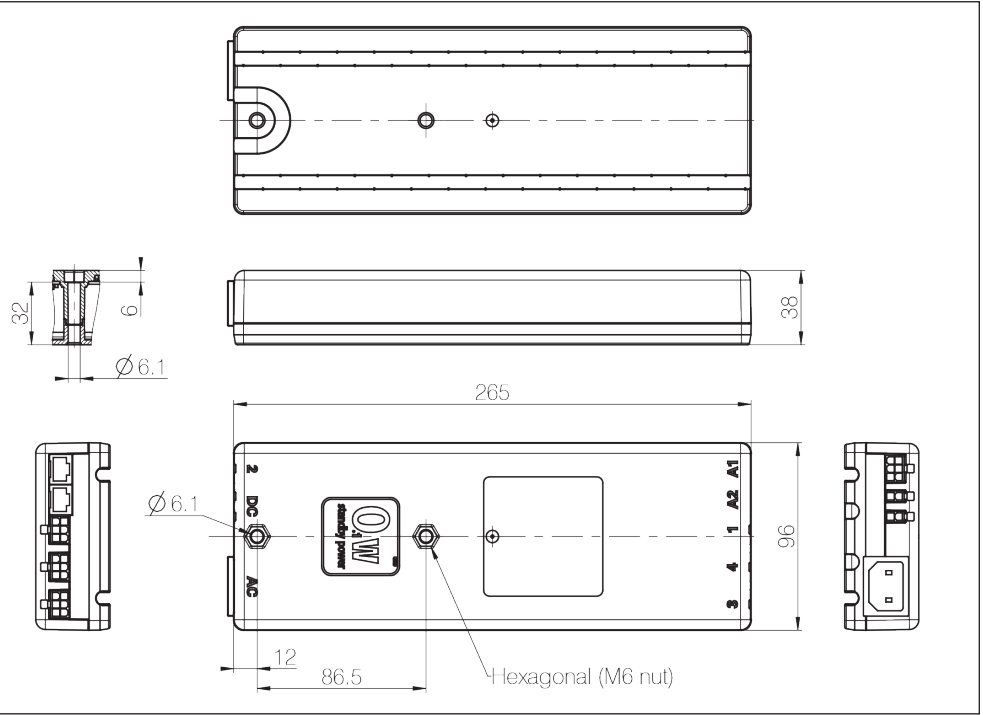


DB14





CBD6S 300W (SMPS) up to 4 channels



LINAK APPLICATION POLICY

The purpose of the application policy is to define areas of responsibilities in relation to applying a LINAK product defined as hardware, software, technical advice, etc. related to an existing or a new customer application.

LINAK products, as defined above, are applicable for a wide range of applications within the Medical, Furniture, Desk and Industry areas. Yet, LINAK cannot know all the conditions under which LINAK products will be installed, used, and operated, as each individual application is unique.

The suitability and functionality of the LINAK product and its performance under varying conditions (application, vibration, load, humidity, temperature, frequency, etc.) can only be verified by testing, and shall ultimately be the responsibility of the LINAK customer using any LINAK product.

LINAK shall be responsible solely that LINAK products comply with the specifications set out by LINAK and it shall be the responsibility of the LINAK customer to ensure that the specific LINAK product can be used for the application in question.

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Fax: +86 755 8610 6990
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LINAK Benelux
(Belgium & Luxembourg)
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Fax: 81-45-533-0803
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• Netherlands

LINAK Benelux
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• New Zealand

LINAK New Zealand Ltd
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Fax: +64 9580 2072
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• Norway

LINAK Norge AS
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www.linak.no

• Poland

LINAK Polska
LINAK Danmark A/S (Spółka Akcyjna)
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• Slovakia

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