



DL8, DL9, DL10 and DL11 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-use 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 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 systems, you are always welcome to contact your local dealer.

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:	DL8, DL9, DL10 or DL11 (1 - 3 (4))
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 instruction



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 – 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 on the product it must not be installed.



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



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

Before installation, re-installation, or troubleshooting

- Stop the DL
- Switch off the power supply and pull out the mains plug.
- Relieve the 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 the system is connected to the mains.
- System connection. The individual parts must be connected before the control box is connected 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.
- Ensure that the cables are not damaged.
- Unplug the mains cable on mobile equipment before it is moved.

Misc.

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

Updated documents can always be found here:

User manuals

Declarations

Only for EU markets



This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have 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 DESKLINE® 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 DESKLINE 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: CBD6Sa00b0A-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
Desklene and Homeline Segments
Authorized to compile the relevant technical documentation

Original Declaration

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: 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: DL12abcdeffggghh (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: DL2abCdeffggg (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, DCConnector, 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, 2021-24-11

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/sustainability/declarations/>.

or contact: chemicalcompliance@linak.com

Misc. on the DESKLINE® system

This system is a DESKLINE system developed for desks applications ranging from industry to office desks and for indoor use. 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

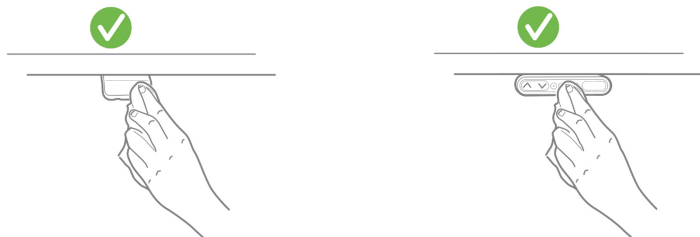
This DESKLINE product is subject to warranty pursuant to the terms of LINAK DESKLINE Warranty Paper, available on the LINAK website www.linak.com/warranty.

Maintenance

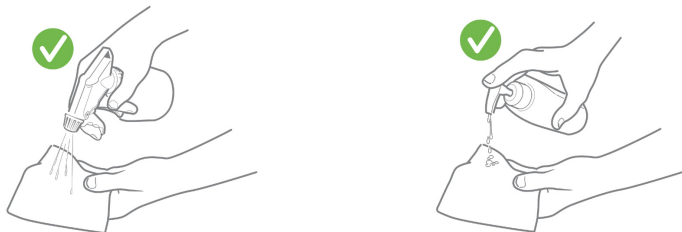
Clean dust and dirt from the outside of the system at appropriate intervals and inspect for damage and breaks. Inspect connections, cables, and plugs without disconnecting, and check functioning as well as fixing points.

Cleaning the desk panel

Clean your desk panel with a soft damp 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 that also takes account of an uneven 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% ~ 6 min./ hour or max. 2 min. at continuous use** stated in the data sheets, must **NOT** be exceeded as this will result in an overheating of the motor and control box. Exceeding the duty cycle will result in a considerable reduction of the life of the system.

The system range contains the following products:

- 1 control box CBD6S 200 W or CBD6S 300 W (SMPS - Switch Mode Power Supply)
- 1 single DL8 / DL9 / DL10 standard / DL10 PLUS™ / DL11 standard / DL11 PLUS™, or 2 in parallel
- 1 exchangeable mains cable
- 1 or 2 motor cables
- 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

Mounting the DL8/DL9/DL10/DL11

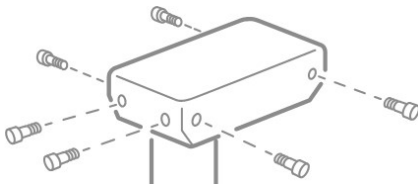
Securing of the mechanical construction

The DL8, DL9, DL10 and DL11 profiles are, equipped with grooves to secure the profiles against rotation. The grooves ensure that no harm will be done to the inner parts of the column should a collision occur (e.g. when you move the assembled desk and the desk hit the door frame). The column can adapt maximum 200 Nm moment in the rotation direction.

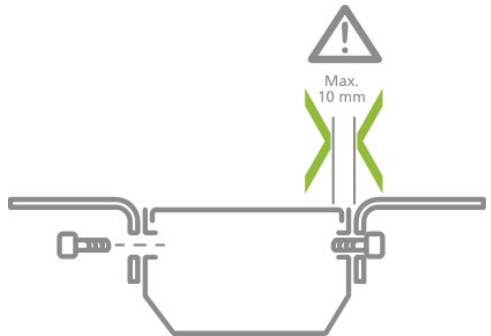
Mounting the motor housing

The motor housing is supplied with six M6 threaded holes for mounting on the top frame.

1. Mount motor housing on top frame using six M6 screws with the following specifications:
Quality: Min. grade 8.8
Length: Max. 10 mm (plus top frame thickness). The screw must not go further than max. 10 mm into the motor housing
2. Fasten screws thoroughly (torque: max. 7.5 Nm).



Always use six M6 screws for mounting the motor housing on the top frame



Mounting screws must not go further than max. 10 mm into the motor housing



Sufficient stability of the desk is only obtained if all six M6 screws are used for mounting the motor housing on the top frame. Tests with fixing the motor housing using only four M6 screws have proved that the torsional stability of the desk this is insufficient.

Alternatively, use the Kick & Click™ top frame and avoid screws to get easy desk assembly.



LINAK recommends using the DL8/DL9/DL10/DL11 DESKLINE® system in push applications with the motor housing mounted upwards.

Mounting the feet

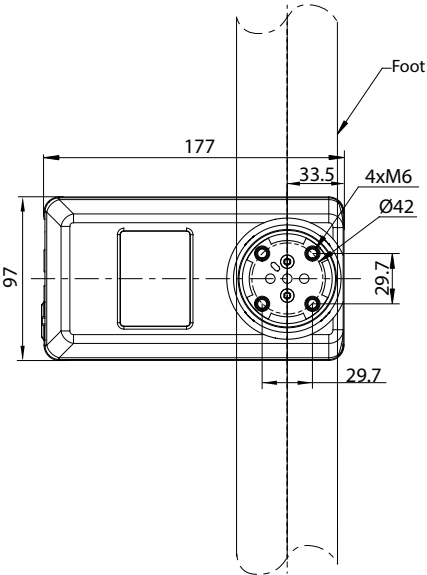
DL8 and DL9

The DL8/DL9 is supplied with 4 M6 threaded holes for the mounting of the foot.

We advise you to fasten the foot by means of 4 pcs. M6 screws of a good quality (min. 8.8) and of a suitable length, which must not go further into the DL8/DL9 column than 20 mm.

The thrust moment must not exceed 10 Nm in the bottom plate thread. The 4 holes in the bottom of the DL8/DL9 are placed on a Ø 42 mm diameter circle.

The holes in the foot must be sufficiently larger than Ø 6 so that it is possible to bring the foot to a level line at assembly/ mounting.



DL10

The standard DL10 bottom plate is supplied with four M6 threaded holes, and the DL10 PLUS™ is supplied with four M6 and two M8 threaded holes.

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

Quality: Min. grade 8.8

Length:

M6: Min. 10 mm (plus foot thickness)

Max. 16 mm (plus foot thickness)

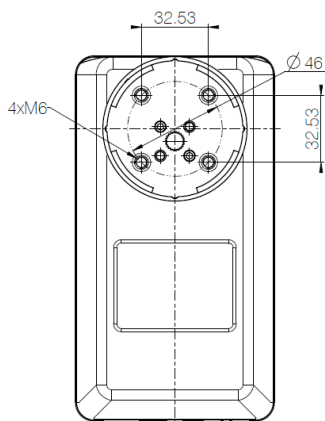
M8: Min. 9 mm (plus foot thickness)

Max. 11 mm (plus foot thickness)

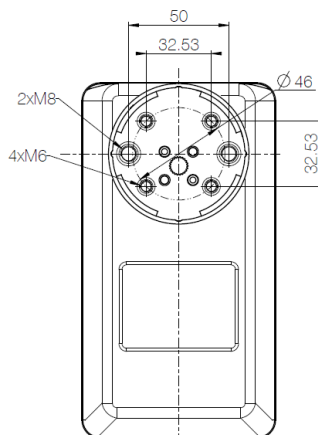
2. Fasten screws thoroughly (torque: max. 10 Nm).

The four M6 threaded holes in the bottom of the column are placed on an $\varnothing 46$ mm pitch circle.

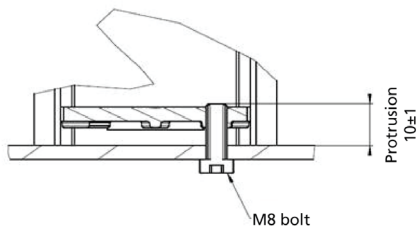
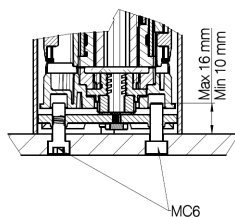
The holes in the foot must be sufficiently larger than $\varnothing 6/\varnothing 8$ to ensure space for the screw heads to be screwed fully into the foot.



DL10 bottom plate (standard)



DL10 bottom plate (PLUS™)



Foot mounted (left: M6; right: M8)

DL11

The DL11 bottom plate is supplied with four M6 and two M8 threaded holes.

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

Quality: Min. grade 8.8

Length:

M6: Min. 10 mm (plus foot thickness)

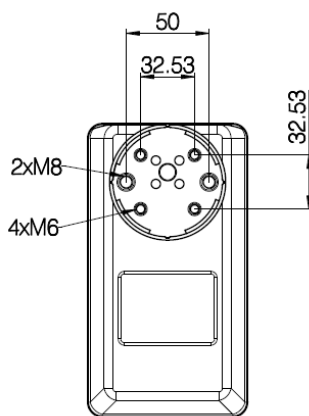
Max. 16 mm (plus foot thickness)

M8: Min. 9 mm (plus foot thickness)

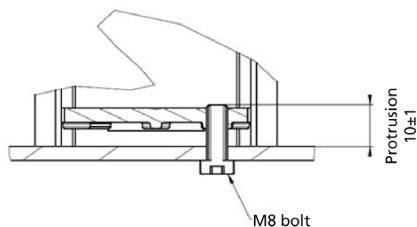
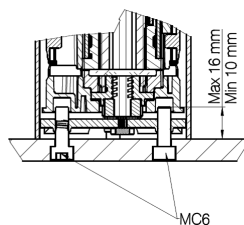
Max. 11 mm (plus foot thickness)

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

The holes in the foot must be sufficiently larger than $\varnothing 6/\varnothing 8$ to ensure space for the screw heads to be screwed fully into the foot.



DL11 bottom plate

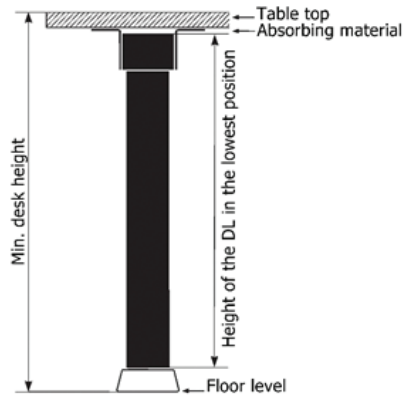


Foot mounted (left: M6; right: M8)

Mounting the tabletop

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

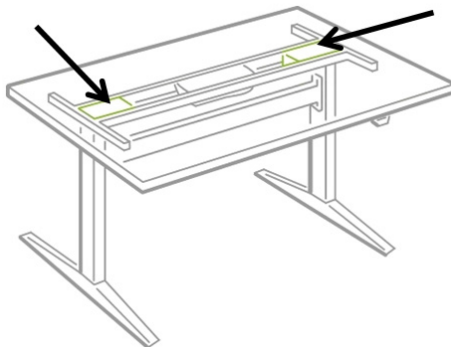
1. Place vibration/shock-absorbing material between tabletop and top frame.



Placing the monitor

Placement of a monitor directly above the motor housing may cause malfunction of the monitor.

Magnets inside the motor may interrupt the picture on the monitor depending on the distance and the type of monitor. If this is the case, the problem may be solved by placing an iron plate/tube or another magnetic material, somewhat larger than the motor housing, between the motor and the tabletop.



Recommended placement of an iron plate/tube or another magnetic material



The mounting screws on the DP, DPA or DPB must be fastened with a max. torque of 1 Nm.

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 DL8/DL9/DL10/DL11 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.

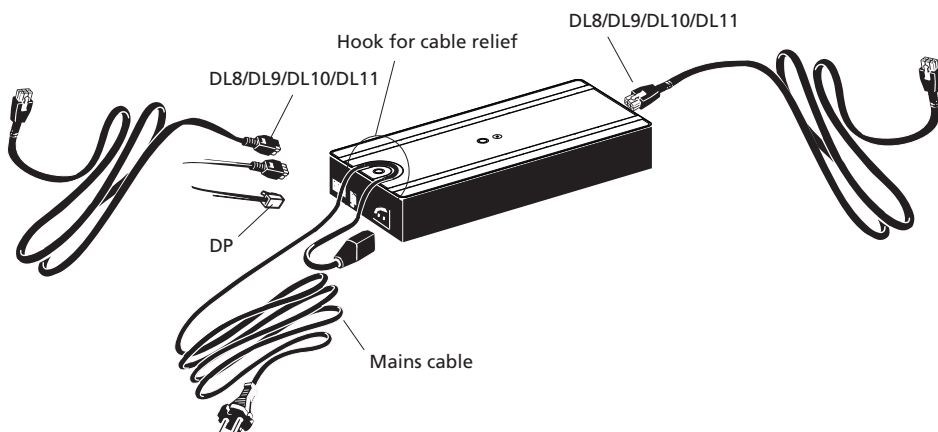


Figure 1

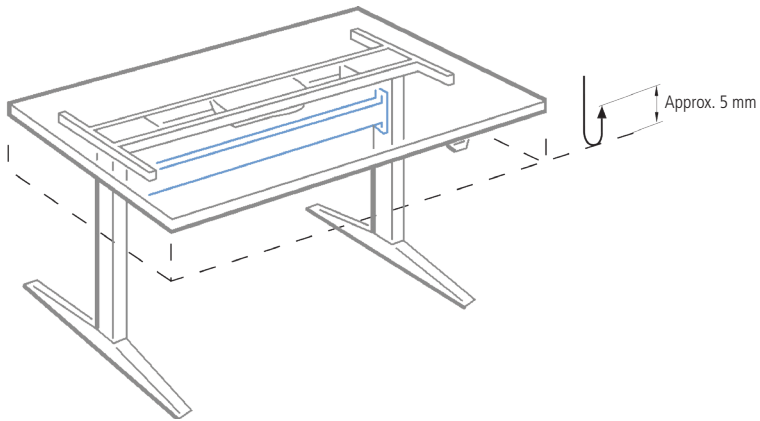
Initialisation of the DESKLINE® parallel system

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. Do not release the down button until 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):

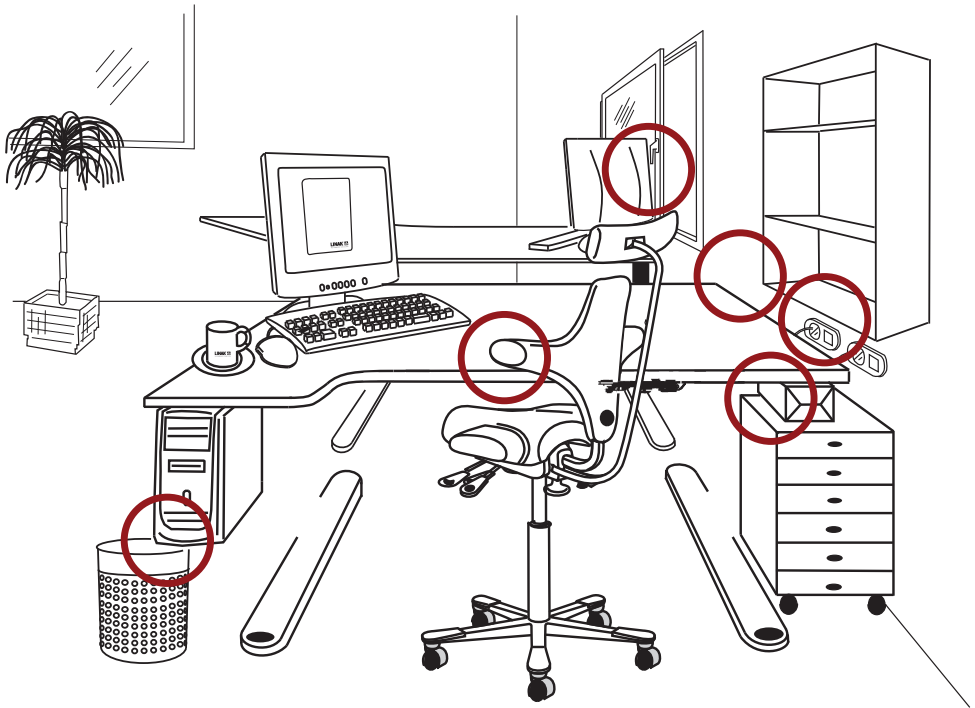
No initialisation in upward direction required.

Non-PIEZO columns (no IID):

The first two times the system moves into end stop in upward direction, the system will detect overload. Afterwards the system will only run to approximately 2 mm before end stop.

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 a DL9 and DL11 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 DL9 and DL11 columns to have the standard built-in dimension and the standard stroke length. There are no visible changes to the column.

Anti-Collision™ (software)

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

Disposal of LINAK products

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

Guidance

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 material, 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
Columns/ Actuator :	Spindle and motor Plastic housing Cable PCB boards	Scrap Plastic recycling or combustion Cable scrap or combustion Electronics scrap
Control Box :	PCB boards Plastic housing Cable Transformer	Electronics scrap Plastic recycling or combustion Cable scrap or combustion Metal scrap
Handset/Control :	Plastic housing Cable PCB board	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 type and fibre contents, if any.

Main groups of disposal

Product main groups	Metal scrap	Cable scrap	Electronics scrap	Plastic recycling or combustion	Comments
DLX	x	x	x	x	
CBD6S (SMPS)	x	x	x	x	
DPXX		x	x	x	
WDPL		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 product the batteries must be removed at once 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 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

Labels for DL8 and DL9

LINAK®



WE IMPROVE YOUR LIFE

Item No. : DL8000B00500645


Prod. Date : 2008.10.08




Max Load : 800 N

Power Rate: 18 V~ / 10 Amp

Duty Cycle : 10%, Max. 2 min./18 min.

NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL





P.O.746856-0001

MADE BY LINAK A/S DENMARK

LINAK®



WE IMPROVE YOUR LIFE

Item No. : DL9000A00650560

Prod. Date : 2006.05.09

Max Load : 800 N

Power Rate: 18 V~ / 10 Amp

Duty Cycle : 10%, Max. 2 min./18 min.

NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL






P.O.123456-0000

MADE BY LINAK A/S DENMARK

Labels for DL10 and DL11

LINAK®



WE IMPROVE YOUR LIFE

Item No. : DL1000B00500645


Prod. Date : 2008.10.08




Max Load : Push 800N

Power Rate: 18V ~ / Max. 10 Amp.

Duty Cycle : 10% max. 2 min./18min.

NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL





P.O.482426-0002

MADE BY LINAK A/S DENMARK

LINAK®



WE IMPROVE YOUR LIFE

Item No. : DL11000A00635575

Prod. Date : 2006.05.09

Max Load : 800 N

Power Rate: 18 V~ / 18VDC

Duty Cycle : 10%, Max. 2 min./18 min.

NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL





P.O.123456-0000

MADE BY LINAK A/S DENMARK

Label for CBD6S 200 W (SMPS)

LINAK®



WE IMPROVE YOUR LIFE

GROUP HEADQUARTERS
SMEDEVAENGET 8
DK 6430 NORDBORG
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





P.O.1234567-0001

MADE BY LINAK A/S DENMARK



0.1W
Standby
Power

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

LINAK®



WE IMPROVE YOUR LIFE

GROUP HEADQUARTERS
SMEDEVAENGET 8
DK 6430 NORDBORG
DESIGNED IN DENMARK

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.: 03002000 Ver. XXX





P.O.-0000

Assembled in China 01

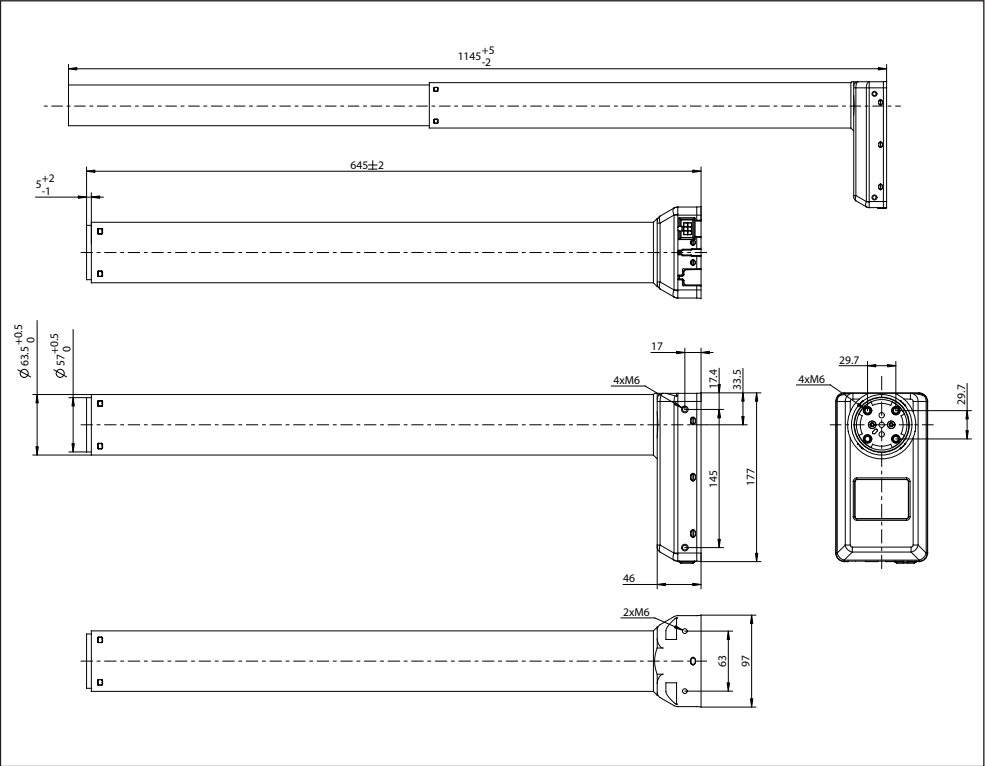


DRAWING APPENDIX

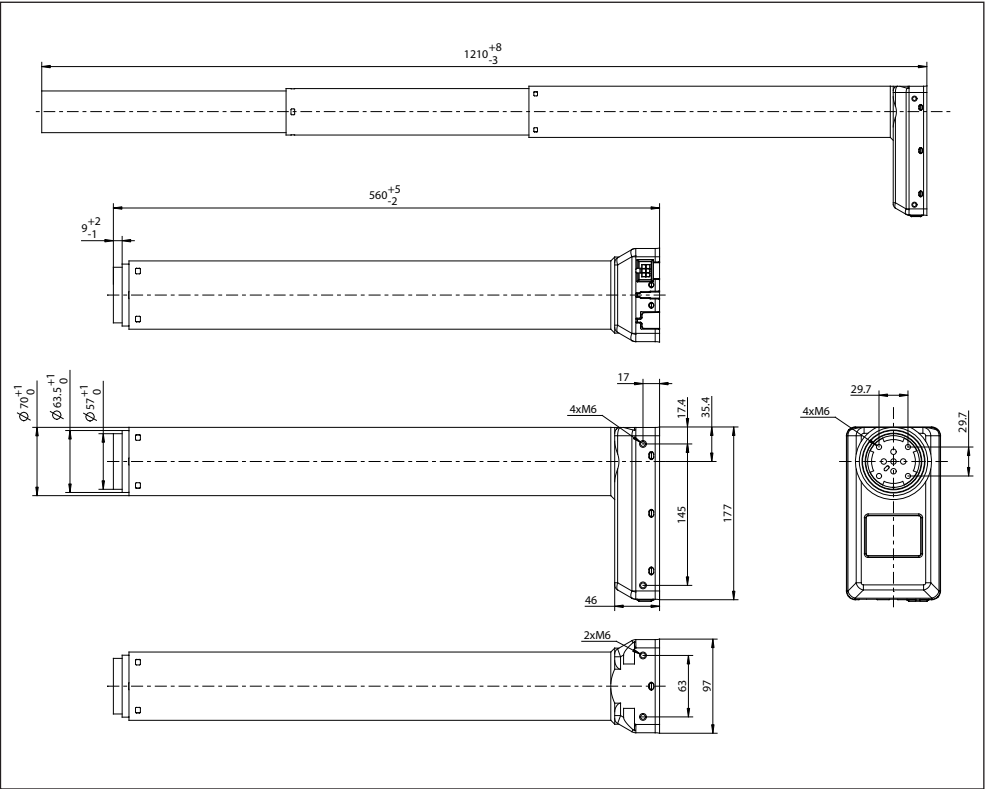


All measurements are without powder coating.

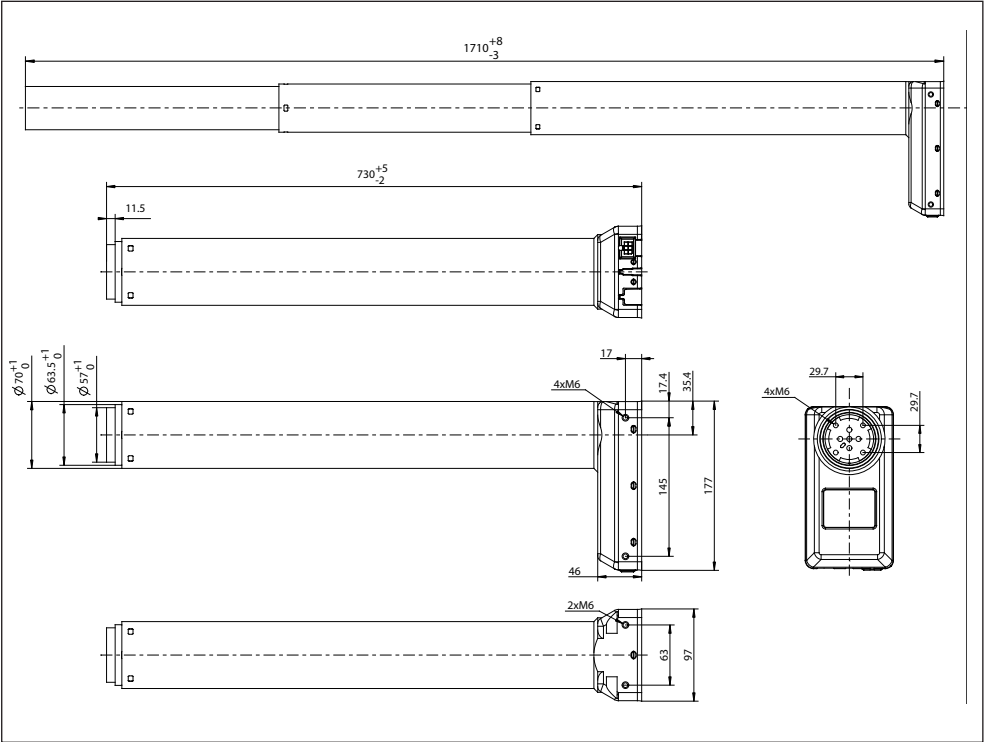
DL8

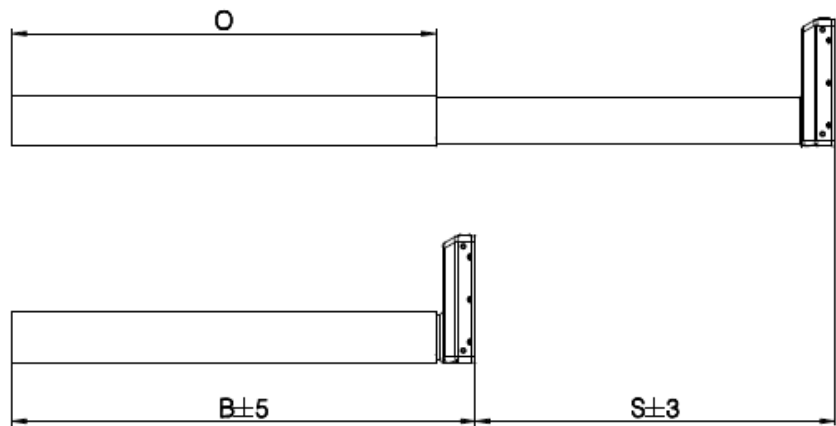


Standard DL9



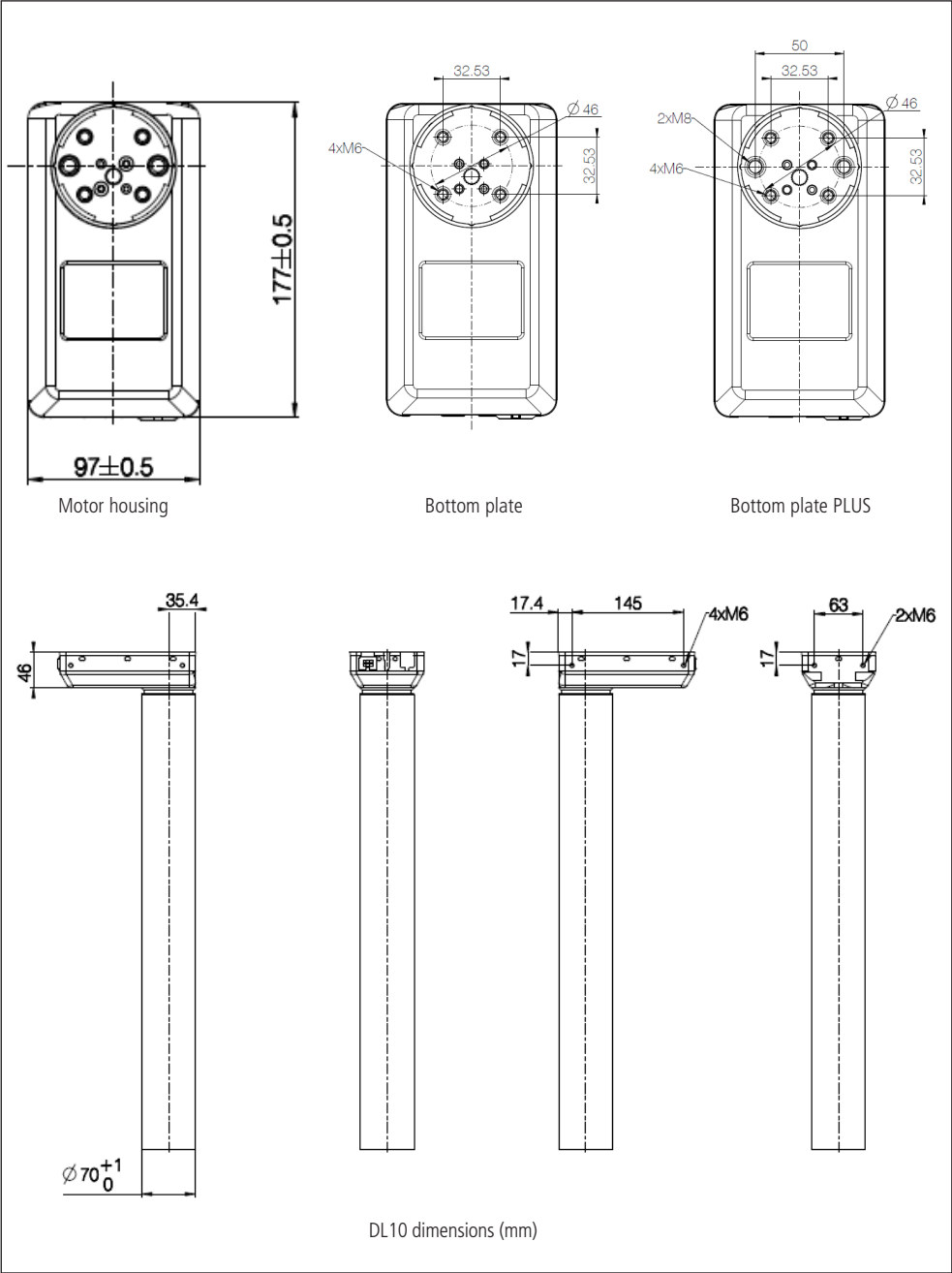
Extended version DL9XL

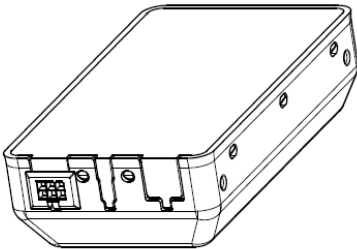




Version	Combination code	S (Stroke length) [mm]	B (Built-in length) [mm]	O (Outer profile length) [mm]
DL10	DL10xxxxxx500645	500	645	590

DL10 built-in length, stroke length, and outer profile length (mm)



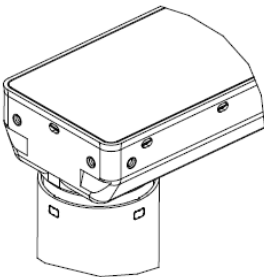


Standard

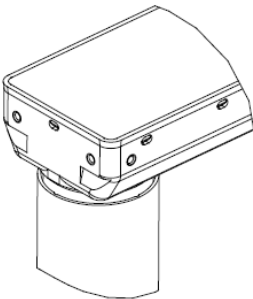
Combination code	Type
DL10xxxxxxxxxxxx	Standard

Socket combination

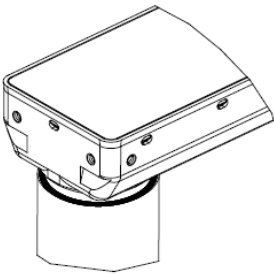
Profile designs



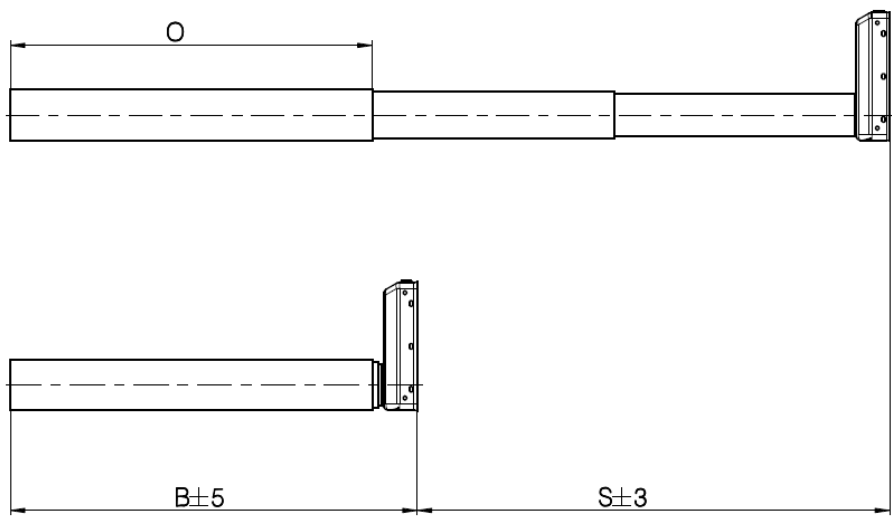
Standard



PLUS™ without trim rings

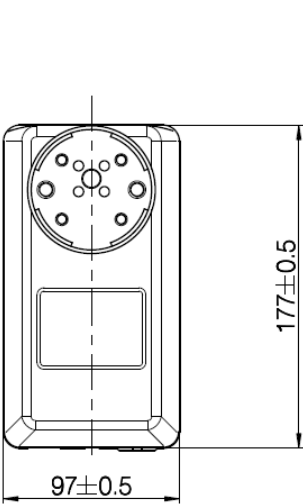


PLUS™ with trim rings

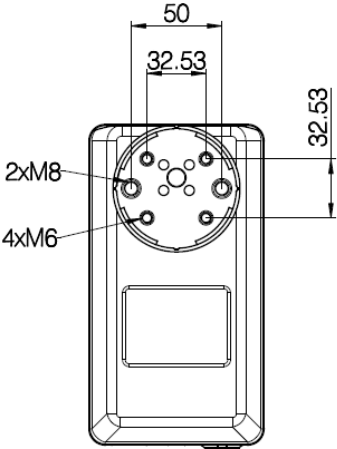


Version	Combination code	S (Stroke length) [mm]	B (Built-in length) [mm]	O (Outer profile length) [mm]
Standard columns				
EU	DL11xxxx0635575	635	575	498
PIEZO	DL11xxxxE650560	650	560	498
BIFMA	DL11xxxxx665518	665	518	456
XL	DL11xxxxx965740	965	740	663
PLUS columns				
EU	DL11xxxPx650560	650	560	498
BIFMA	DL11xxxPx665518	665	518	456

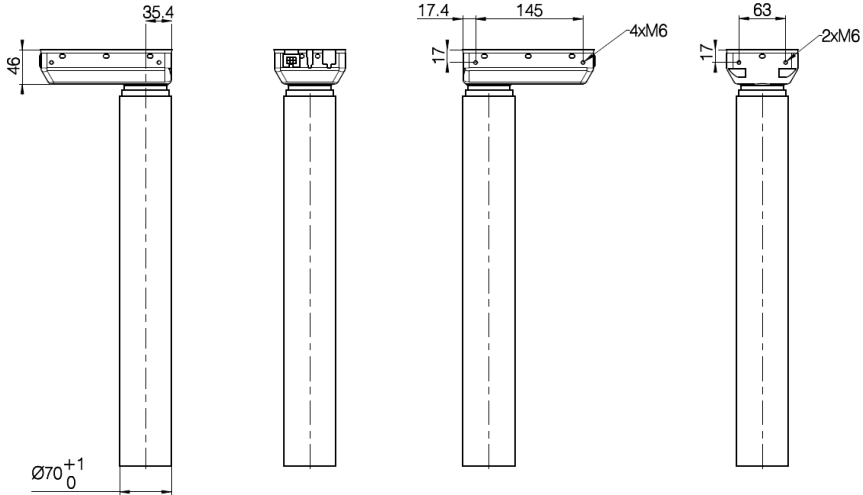
DL11 built-in length, stroke length, and outer profile length (mm)



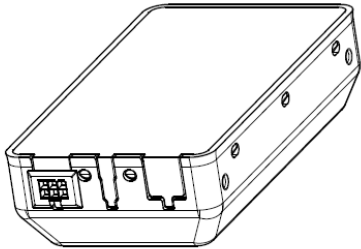
Motor housing



Bottom plate



DL11 dimensions (mm)

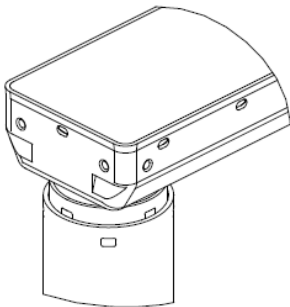


Standard

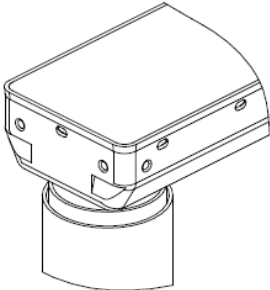
Combination code	Type
DL11xxxxxxxxxxx	Standard

Socket combination

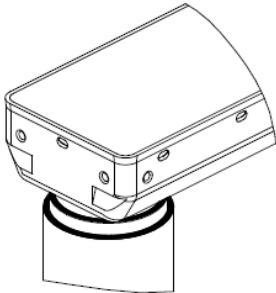
Profile designs



Standard

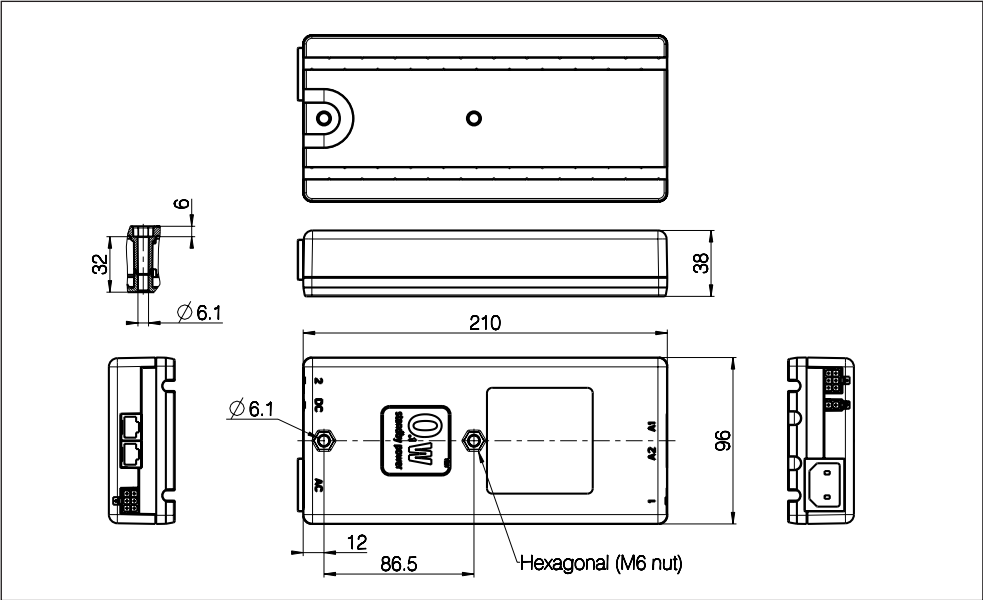


PLUS™ without trim rings

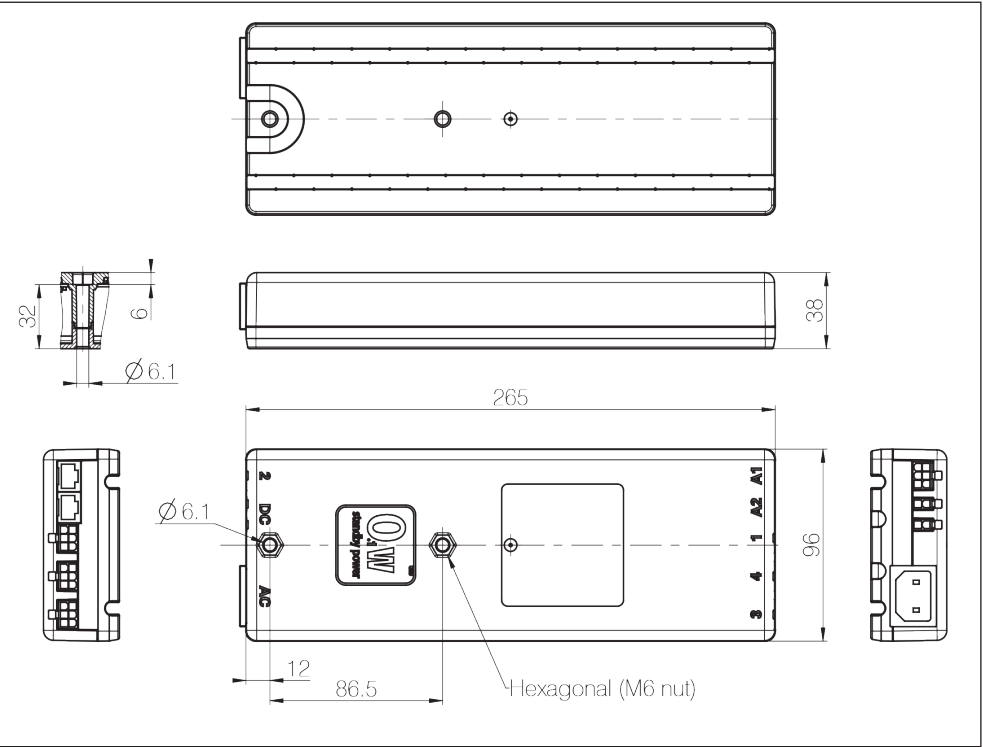


PLUS™ with trim rings

CBD6S 200 W (SMPS)



CBD6S 300 W (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.

FACTORIES

• Denmark

LINAK A/S
Group Headquarters
Tel: +45 73 15 15 15
Fax: +45 74 45 80 48
Fax (Sales): +45 73 15 16 13
www.linak.com

• Denmark

LINAK Profiles
Tel: +45 73 70 95 30
www.linak-profiles.com

• China

LINAK (Shenzhen) Actuator Systems, Ltd.
Tel: +86 755 8610 6656
Fax: +86 755 8610 6990
www.linak.cn

• Slovakia

LINAK Slovakia s.r.o.
Tel: +421 51 7563 444
Fax: +421 51 7563 410
www.linak.sk

• Thailand

LINAK APAC Ltd.
Tel: +66 33 265 400
www.linak.com

• USA

LINAK U.S. Inc.
Americas Headquarters
Tel: +1 502 253 5595
Fax: +1 502 253 5596
www.linak-us.com

SUBSIDIARIES

• Australia

LINAK Australia Pty. Ltd
Tel: +61 3 8796 9777
Fax: +61 3 8796 9778
www.linak.com.au

• Austria

LINAK Repräsentanz
Österreich (Wien)
Tel: +43 (0)1 890 7446
Fax: +43 (0)1 890 744615
www.linak.at - www.linak.hu

• Belgium

LINAK Benelux
(Belgium & Luxembourg)
Tel: +32 (0)9 230 01 09
www.linak.be - www.fr.linak.be

• Brazil

LINAK Do Brasil Comércio De Atuadores Ltda.
Tel: +55 (11) 2832 7070
Fax: +55 (11) 2832 7060
www.linak.com.br

• Canada

LINAK Canada Inc.
Tel: +1 502 253 5595
Fax: +1 416 255 7720
www.linak-us.com

• China

LINAK (Shenzhen) Actuator Systems, Ltd.
Tel: +86 755 8610 6656
Fax: +86 755 8610 6990
www.linak.cn

• Czech Republic

LINAK C&S s.r.o.
Tel: +42 058 174 1814
Fax: +42 058 170 2452
www.linak.cz - www.linak.sk

• Denmark - Headquarters

LINAK A/S - Group Headquarters
Tel: +45 73 15 15 15
Fax: +45 74 45 80 48
Fax (Sales): +45 73 15 16 13
www.linak.com

• Denmark - International

LINAK International
Tel: +45 73 15 15 15
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• Denmark - Sales

LINAK DANMARK A/S
Tel: +45 86 80 36 11
Fax: +45 86 82 90 51
www.linak.dk

• Finland

LINAK OY
Tel: +358 10 841 8700
www.linak.fi

• France

LINAK FRANCE E.U.R.L
Tel: +33 (0) 2 41 36 34 34
Fax: +33 (0) 2 41 36 35 00
www.linak.fr

• Germany

LINAK GmbH
Tel: +49 6043 9655 0
Fax: +49 6043 9655 60
www.linak.de

• India

LINAK A/S India Liaison Office
Tel: +91 120 4531797
Fax: +91 120 4786428
www.linak.in

• Ireland

LINAK UK Limited (Ireland)
Tel: +44 (0)121 544 2211
Fax: +44 (0)121 544 2552
+44 (0)796 855 1606 (UK Mobile)
+35 387 634 6554 (Republic of Ireland Mobile)
www.linak.co.uk

• Italy

LINAK ITALIA S.r.l
Tel: +39 02 48 46 33 66
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LINAK K.K.
Tel: 81-45-533-0802
Fax: 81-45-533-0803
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• Malaysia

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Tel: +31 76 5 42 44 40
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Tel: +64 9580 2071
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LINAK Danmark A/S (Spółka Akcyjna)
Tel: +48 22 295 09 70/22 295 09 71
www.linak.pl

• Republic of Korea

LINAK Korea Ltd.
Tel: +82 2 6231 1515
Fax: +82 2 6231 1516
www.linak.kr

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LINAK Slovakia s.r.o.
Tel: +421 51 7563 444
www.linak.sk

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LINAK Actuadores, S.L.U
Tel: +34 93 588 27 77
Fax: +34 93 588 27 85
www.linak.es

• Sweden

LINAK Scandinavia AB
Tel: +46 8 732 20 00
Fax: +46 8 732 20 50
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• Switzerland

LINAK AG
Tel: +41 43 388 31 88
Fax: +41 43 388 31 87
www.linak.ch - www.fr.linak.ch
www.it.linak.ch

• Taiwan

LINAK (Shenzhen) Actuator systems Ltd.
Taiwan Representative office
Tel: +886 2 27290068
Fax: +886 2 27290096
www.linak.tw

• Thailand

LINAK APAC Ltd.
Tel: +66 33 265 400

• Turkey

LINAK İth. İhr. San. ve Tic. A.Ş.
Tel: +90 312 4726338
Fax: +90 312 4726635
www.linak.com.tr

• United Kingdom

LINAK UK Limited
Tel: +44 (0)121 544 2211
Fax: +44 (0)121 544 2552
www.linak.co.uk

• USA

LINAK U.S. Inc.
North and South American Headquarters
Tel: +1 502 253 5595
Fax: +1 502 253 5596
www.linak-us.com
www.linak-latinamerica.com

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