The Human Solution

Design For Human Use


# Uplift 800

## Control Unit and Switches Manual

# Contents

# 1. Preface

Dear Customer,

Thank you for choosing an electrically height-adjustable desk from **The Human Solution** You are now in possession of a state-of-the-art product that compiles with all the relevant safety requirements.

## 1.1 Intended use

Uplift 800 control units may only be used for the intended purpose, i.e. to control electric height-adjustable desks. Only motors that meet **The Human Solution** specifications may be used to drive the lifting devices. The control units must be installed, put into operation and their function checked by qualified personnel. Using them to control other motors or installing them in products other than electric height-adjustable desks is only permissible with the prior written consent of **The Human Solution**. Their basic function is upwards and downwards adjustment of the desktop, which can be controlled with all the handswitches available.

## 1.2 Uplift 800 control unit functionality

The Uplift 800 control units incorporate the following features (the availability of some of the features depends on the handswitch used):

- Control unit with 3 motor channels
- High efficient switch mode power supply (SMPS)
- Low standby power consumption, low field emission
- Control units with US and EU input voltage available
- Up to 2 motor groups
- ISP (Intelligent System Protection)
- Enhanced Drive Comfort
- Container- and Shelf-Stop
- Low speed area
- InBox Diagnosis
- LogicConnector DATA for sensors and cascading
- Additional functions are available, depending on the handswitch model used (e.g. saving desktop positions, adjusting the desktop to saved positions, etc.)
- Depending on your needs, you have a choice of two switches for installation underneath the tabletop and one tabletop switch.

### 1.3 Target group and previous knowledge

This user manual addresses the following people:

- Technicians who assemble and put electric height-adjustable desks into operation (by installing motors and control units, configuring control units, etc.)
- Furniture assembly, service and maintenance personnel who put electric height-adjustable desks into operation in showrooms or at the customer's

The following is required for installing, operating and configuring electric height-adjustable desks with Uplift 800 control units:

- Basic mechanical and electrical skills (with suitable qualifications)
- Reading the user manual

### 1.4 Symbols used in safety instructions

This user manual contains safety instructions with symbols to approach your attention to possible dangers and residual risks. They indicate the following:

**Danger:** this warning symbol advises you of imminent danger to people's lives and health.

*Failure to observe this warning may result in health problems, serious injuries and damage to property.*

**Caution:** th is w arning adv ises you of p ossible dang ers f rom el ectric current.

*Failure to observe this warning may cause injuries and damage to property.*

**Note:** t his sym bol adv ises you of important i nformation that m ust be noted for operating the Uplift 800 control unit safely.

**Danger:** this warning advises you of a poss ible risk of body parts being trapped or pinched in exceptional cases.

*Failure to observe this warning may result in health problems, serious injuries and damage to property.*

**Note:** you must read the user manual.

### 1.5 ISP (Intelligent System Protection)

ISP is an electronic state-of-the-art protection system developed by **The Human Solution.** It also substantially reduces the risk for fingers being trapped or pinched.

**Danger:** in spite of ISP being in place, there may still be a risk of pinching in exceptional cases, as it is not only the control unit, but also the interaction between the mechanical and electronic systems that is responsible for cutting out the motor. In addition, the mechanical components, motor and ambient conditions all affect cut-out sensitivity.

As the control unit distributer, **The Human Solution** cannot therefore eliminate this residual risk completely or accept any liability.

**Note:** the ISP-sensitivity and the ISP-cutoff value depend on the whole system (mechanical and electrical components).

**Note:** as soon as ISP has stopped the electric height-adjustable desk from moving, you can then only adjust the desktop in the opposite direction (the safety feature initially prevents you from adjusting the desk in the same direction as triggered it).

**Attention – Safety Notice:** Even when equipped with a sensor, the collision protection is by no means considered personal protection equipment and may not be classified and described as such!

## 1.6 Package contents

The standard scope of delivery consists of one control unit.

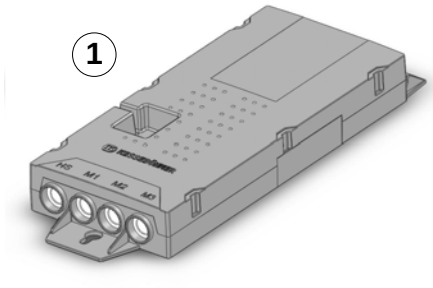


*Figure 1: Package contents*

① Uplift 800 control unit

## 1.7 Unpacking

The Uplift 800 control unit comes packed in a cardboard box. To unpack, proceed as follows:

1. Remove the cardboard.
2. Dispose of the packaging materials.
3. Keep the user manual at hand for the operators.

**Note:** ensure eco-friendly disposal of the packaging materials (separate the plastic parts and cardboard for collection).

## 1.8 Safety instructions

This user manual contains safety instructions that draw your attention to any possible risks, thus enabling safe operation of the Uplift 800 control unit. Please observe these warnings and instructions at all times.

In this section you will find general safety instructions that do not refer to any particular steps or procedures. You will find the work-specific safety instructions in the relevant section of the manual. Additional warnings are given on the Uplift 800 control unit itself.

### *1.8.1 General safety instructions*

**Note:** you must read the user manual carefully before installing or operating the Uplift 800 control unit.

**Caution:** do not open the Uplift 800 control unit under any circumstances. There is a danger of electric shock.

**Caution:** the Uplift 800 control unit is not designed for continuous operation. Changing the desktop position without interruption must not exceed the duty cycle indicated on the nameplate.

**Caution:** the Uplift 800 control unit may only be operated with mains voltage as specified on the type plate.

Uplift 800 control units are also available for the mains voltages used in other countries.

**Caution:** only use the power cord supplied with the control unit. Check that it is not damaged. Do not ever operate the Uplift 800 control unit if the power cord is damaged.

**Danger:** it is not allowed to connect self constructed products to **The Human Solution** motor controls. To prevent damage of the unit use only components suitable for **The Human Solution** motor controls.

**Caution:** before connecting and disconnecting handswitches, you must unplug the power cord.

**Caution:** in the event of a malfunction (e.g. if the control unit keeps adjusting the desk because a movement key has jammed), please unplug the unit immediately.

**Danger:** do not expose the Uplift 800 control unit to moisture, drips or splashes.

**Danger:** when changing the desktop position there is a risk of pinching. You must therefore ensure that no people or objects are located in the hazardous area or can reach into it.

**Danger:** when changing the desktop position, there may in exceptional cases be a risk of pinching in spite of the safety features. You must therefore always ensure that no people or objects are located in the hazardous area or reach into it.

**Danger:** do not modify or make any changes to the control unit, the controls themselves or handswitches.

**Danger:** do not operate the Uplift 800 control unit in a potentially explosive atmosphere.

**Danger:** in the event of a fault (motor or component), whenever the desktop attempts to adjust the height it may move slightly before the safety cut-out is triggered. Please note that there is a potential risk of pinching in this case.

**Danger:** intelligent system protection (ISP) is not enabled during all resets (see 4.2.4). Please note that there is a potential risk of pinching in this case.

**Danger:** this device is not intended for use by individuals (including children) with limited physical, sensory or mental abilities or with a lack of experience and/or lack of expertise, unless they are supervised by a person responsible for their safety or have received instructions from that person on how to use the control unit.

**Danger:** children must be supervised at all times to ensure that they do not play with the control unit.

**Danger:** if the control unit's power cord is damaged, it must be replaced by the manufacturer or customer service or similarly qualified person in order to prevent any risks.

**Note:** only clean the Uplift 800 control unit with a dry or slightly moist cloth. Before cleaning, you must always unplug the power cord.

**Note:** in case of a mains power breakdown or if the power cord is plugged off **during the movement of the drives**, a manual reset of the Uplift 800 may be necessary!

### *1.8.2 Important notes for OEMs*

What we mean by OEMs are companies that purchase Uplift 800 control units from **The Human Solution** and install them in their own products (e.g. electric height-adjustable desks).

**Note:** for reasons of EU conformity and product safety, we advise you to provide users of your products with a manual.

**Note:** when you ship your finished products, enclose a user manual containing all the safety instructions that consumers need to handle your product safely.

**Note:** the user manual for your finished product must contain the following note: you must read the user manual before you operate the product (electric height-adjustable desk).

Advise your customers that the user manual must be kept at hand in close proximity to the product (electric height-adjustable desk).

**Danger:** conduct a risk analysis of your product (electric height-adjustable desk) so that you can respond to any potential residual risks (e.g. by changing design features or adding notes to the user manual and/or placing warnings on your product).

**Note:** ensure that no unauthorized individuals (e.g. small children, people under the influence of drugs, etc.) can tamper with your product or the control unit.

## 1.9 Important note for service

**Danger:** only use original spare parts. Parts may only be replaced by qualified service technicians, otherwise the warranty/guarantee shall be null and void.

**Danger:** in the event of a fault, please contact customer service immediately. Only original spare parts may be used for repairing the control units. Parts may only be replaced by qualified service technicians, otherwise the warranty/guarantee shall be null and void.

# 2. Uplift 800 installation instructions

Mount the Uplift control unit on the underside of the desktop. You will need the following tools for mounting:

- Cross-tip screwdriver
- Pencil
- Drill (for drilling holes)

**Caution:** the power cord must be unplugged while the Uplift 800 control unit is being mounted.

To mount the Uplift 800 control unit, proceed as follows:

**Note:** Please follow the mounting instructions carefully.

1. Position the control unit where you want it under the desktop.
2. Mark the drill holes with a pencil (See Figure 2: use the areas with the smaller diameter).

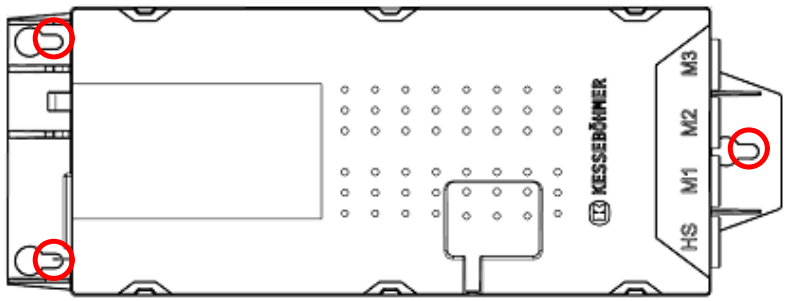


*Figure 2: Step 2*

3. Pre-drill these two holes.
4. Screw the screws halfway into the 3 holes
5. Mount the control unit with the 3 screws. The screw heads fit to the bigger diameters of the mounting holes.
6. Slide the control unit to the body stop of the 3 holes with the smaller diameter (See Figure 2).
7. Tighten the screws properly.

**Note: The Human Solution** recommends lens head screws DIN7981C 4,8xL with a lens head diameter of 9,5mm. The length L of the screw should fit to the used desktop. The tightening torque depends on the wood, but 2Nm shall not be exceeded.

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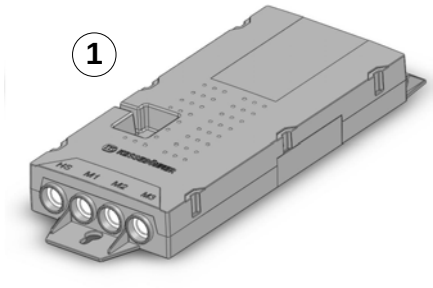


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In this section you will find general safety instructions that do not refer to any particular steps or procedures. You will find the work-specific safety instructions in the relevant section of the manual. Additional warnings are given on the Uplift 800 control unit itself.

## 3.2 Commissioning procedure

**Caution:** the power cord must be unplugged while the Uplift 800 control unit is being commissioned.

To commission a Uplift 800 control unit, proceed as follows.

### *3.2.1 Connect drives*

Plug the motor cables into the relevant 8-pin motor sockets (M1, M2, and M3).

**Note:** when connecting the motor cables, you must strictly adhere to the sequence M1, M2, M3.

### *3.2.2 Connect handswitch*

Plug the handswitch into the 7-pin socket (HS).

**Note:** To operate the table, we offer the convenient LUD switch that enables programming of different settings along with a simple Up/Down switch, both of which have under table mounts, as well as a tabletop-mounted Up/Down switch.

### *3.2.3 Connect mains supply*

**Caution:** before you plug in the power cord, check the following again:

- The mains supply voltage must be as specified on the type plate
- All the components must be plugged into the right sockets
- The earthing cable must be connected

When the power cord is plugged in, the Uplift 800 control unit is operational.

**Note:** in case of a mains power breakdown or if the power cord is plugged off **during the movement of the drives**, a manual reset of the Uplift 800 may be necessary!

### 3.2.4 System configuration (example)

The figure below shows the socket assignment for a configuration example. This configuration consists of:

① 1 Uplift 800 control unit
② 3 motors (shown inside the columns)
③ HSC-KB-OD-2 handswitch

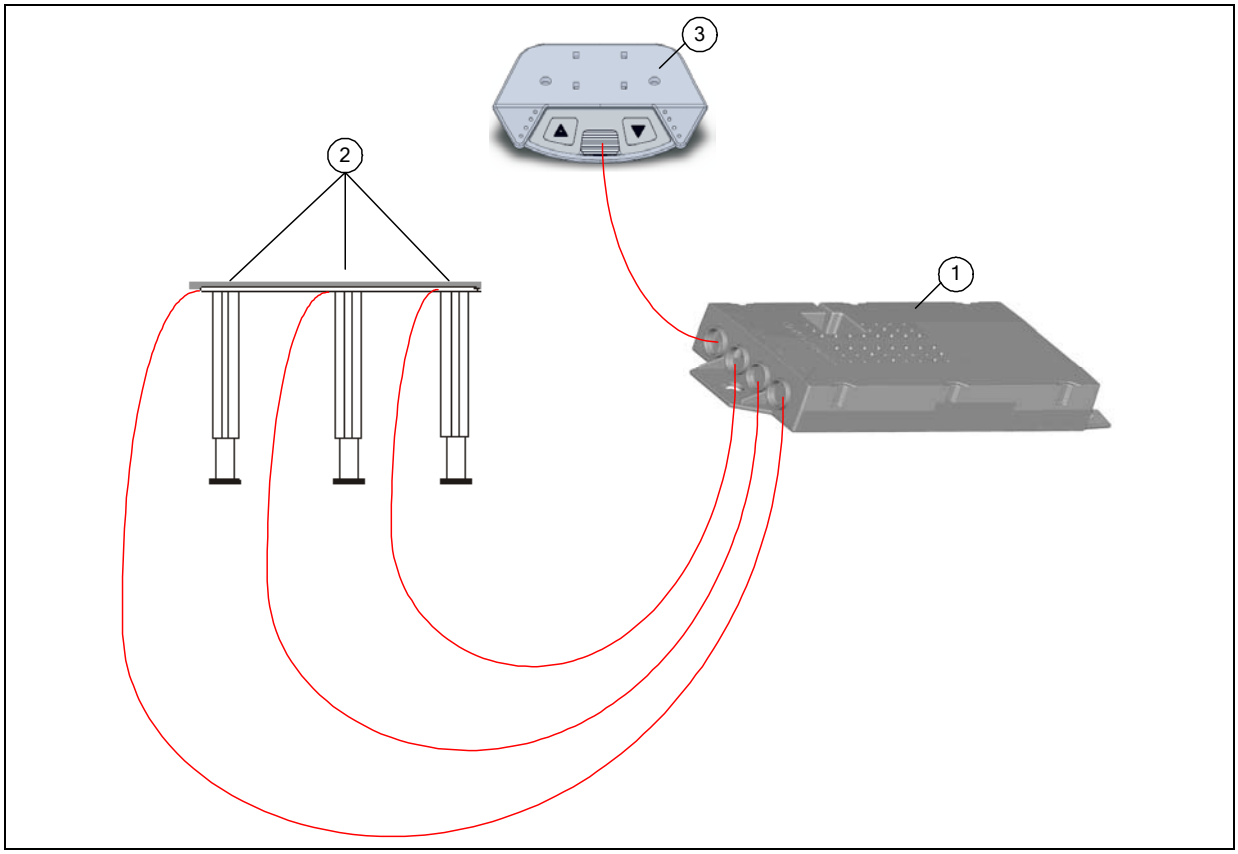



*Figure 4: Configuration example*

### *3.2.5 Reset*

At initial start-up the product must be reset in order to commence operation.
When used in a table, the reset function facilitates moving all columns to the same level at the bottom-most table position. This ensures that the desktop moves in parallel to the ground level.
Additionally the standard version of the control saves the connected components, such as columns or an optional sensor, in its memory. After the reset, changes in the configuration will be recognized and classified as errors. The system will not move before the saved condition has been restored.

**Danger:** During reset the collision protection is deactivated so that there is no detection activity. This entails a higher risk of crushing. Please make sure that there are no objects or persons in the danger zone (defined as the entire lifting or moving range of all components) and the danger zone is kept free.

### *3.2.6 Reset (manual reset)*

To perform a reset, the Up and Down keys of the switch need to be pressed long enough to cause the system to move downwards and reach the bottom position.


and

As the control automatically shifts into energy-saving mode after a few seconds, this mode must be deactivated first. To do this, briefly press the Up or Down key.

Press and hold the Up and Down keys at the same time immediately after the previous step.

After 2 seconds the reset begins, the table moves downward and needs to be kept moving until it reaches its bottom position.

A successful reset operation is followed by a double clicking sound from the control.

**Note:** In order to reset the control to the factory setting you will need an LUD switch or a dongle that has been programmed with the respective basic setting!

# 4. Operating the Uplift 800 control unit

To ensure safe operation of the Uplift 800 control unit, please observe the following safety instructions:

**Note:** in case of a mains power breakdown or if the power cord is plugged off **during the movement of the drives**, a manual reset of the Uplift 800 may be necessary!

**Caution:** keep children away from electric height-adjustable desks, control units and handswitches. There is risk of injury and electric shock.

**Caution:** unplug the power cord during a thunderstorm or if you do not intend to use the desk for a longer period. The control unit might otherwise be damaged by power surges.

## 4.1 Basic functions

**Note:** the Uplift 800 control unit offers an extensive range of functions. The availability of some functions depends however on the handswitch used.

This section describes the basic functions available with every handswitch designed for use with Uplift 800 control units.

**Note:** the 2 basic functions upward and downward movement are available for both motorgroups separately. Please read the manual of the used handswitch to see which buttons are linked to which motor group!

### *4.1.1 Upward desktop movement*

This function enables you to adjust the desktop upwards. To change its position, proceed as follows:

Press the **desktop up** key.

Keep pressing the key until the required desktop height is reached.

**Note:** the desktop will continue moving upwards until you release the key or the maximum height is reached.

### *4.1.2 Downward desktop movement*

This function enables you to adjust the desktop downwards. To change its position, proceed as follows:

Press the **desktop down** key.

Keep pressing the key until the required desktop height is reached.

**Note:** the desktop will continue moving downwards until you release the key or the minimum height is reached.

## 4.2 Advanced functions

**Note:** you can only use the following functions of the Uplift 800 control unit if you have a handswitch with **memory position keys** and a **memory key**.

### *4.2.1 Saving a desktop position*

This function allows you to save a defined desktop height. One desktop height can be saved per memory position key. To save a position, proceed as follows:

**Note:** if you are switching on the Uplift 800 control unit for the first time, all the saved positions are set to the lowest desktop height (minimum desktop position).

1. 

   Adjust the desktop to the position you want to save.

   The display will show the desktop height (e.g. 73cm).

2. 


   Press the **memory key**.

   The display will read **S –**.

3. 


   Press the required **memory position key** (e.g. 2).

   The display will read **S 2**.

4. The set desktop position will now be saved to the selected memory position key.

   You will hear an audible double click and after about 2 seconds the saved desktop position will be displayed.

**Note:** using saved desktop positions is only available for handswitches with memory keys. The design of the memory position keys varies, depending on the handswitch model used.

**Note:** it is software parameter dependent which motor group can save/recall memory positions. If both motor groups are capable of saving memory positions, the current position of both groups will be stored (even if they are different). When recalling a stored position in this case, both groups start the ir movement at the same time, even if their movement direction is different.

### *4.2.2 Adjusting the desktop to a saved position*

You can use this function to adjust the desktop to a saved height. To change to a saved position, proceed as follows:

**Note:** availability of the double click function depends on the software configuration of the control unit.

**Option A (without double click function)**

1. 

Press the required **memory position key** (e.g. 2) and hold it down.

   The desktop will move until it reaches the saved position. If you release the key before the saved position is reached, the desktop will stop and the saved desktop position will not be reached.

2. The desktop has reached the saved position. Now release the memory position key.

The display will read the current (saved) desktop position.

**Option B (with double click function)**

1. 

Double click the required **memory position key** (e.g. 2).

2. After the double click, the desktop will automatically adjust to the saved position.

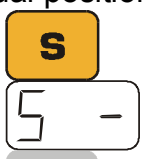
The display will show the current (saved) desktop position.

**Danger:** when you change the desktop position automatically (especially without using pinch protection), there is a higher risk of pinching. You must therefore ensure that no people or objects are located in the hazardous area or reach into it.

**Note:** if you press another key while the desktop is changing automatically to a saved position, it will stop immediately. You then have to reactivate automatic desktop adjustment to a preset position.

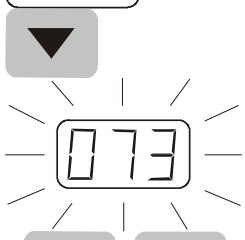
### *4.2.3 Changing the desktop height displayed*

This function enables you to change the height shown on the display, but not the actual position of the desktop. Proceed as follows:

1. 

Press the **memory key**.

The display will read **S –**.

2. 

Press the **Down** key (down arrow) for approx. 5 seconds.

The display will start flashing.

3. 
Adjust the height displayed by pressing the **Down** (down arrow) or **Up** key (up arrow).

4. 

Press the **memory key**.

The height display is now set to the new desktop position entered.

---

**Note:** please note that this procedure does not alter the actual position of the desktop. It only changes the height displayed.

---

**Note:** this function is only available for handswitches with integrated display.

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**Note:** this function is available for both motorgroups separately. Please read the manual of the used handswitch to see which buttons are linked to which motor group!

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### *4.2.4 Manual reset – first and second motor group*

The LUD switch is designed to control two motor groups. This function is required for controlling, for example, a table base, the movement of which is being done via the first two motor channels, and a screen lift, that is controlled via the third motor channel. In standard configuration the first motor group is moved via the Up and Down keys to the right, while the second motor group is controlled via the left Up and Down keys on the LUD switch.

When the actual desktop position no longer corresponds to the height displayed or you wish to use a configured control unit on another identical electric height-adjustable desk, you have to reset the lowest desktop position to the minimum height.

To reset the **first motor group**, proceed as follows.

1. 

   As the control automatically shifts into energy-saving mode after a few seconds, this mode must be deactivated first. To do this, briefly press the Up or Down key.

2. 
   and

   Press and hold the Up and Down keys at the same time immediately after the previous step.

   After 2 seconds the reset begins, the table moves downward and needs to be kept moving until it reaches its bottom position.

3. Release the button(s). The electric height-adjustable desk can now be used again normally.

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**Note:** this function is available for the first motor group only.

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To reset the **second motor group**, proceed as follows.

1. 

   Press the **desktop down button of the second motor group.**

   Keep pressing it until the desktop has reached the lowest position (programmed desktop position).

2. 

   Press the **desktop down button of the second motor group** again and keep pressing it.

   After about 5 seconds, the desktop will slowly move further down until it reaches the absolutely lowest desktop position possible.

3. Release the **desktop down** key. The electric height-adjustable desk can now be used again normally.

---

**Danger:** intelligent system protection (ISP) is not enabled during all resets and limit position calibration. Please note that there is a potential risk of pinching in this case.

---

**Note:** you can reset the first motor group too as shown above. Therefore, use the **desktop down button of the first motor group.**

Please read the manual of the used handswitch to see which buttons are linked to which motor group!

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## 4.3 Software-dependent functions

**Note:** prior to shipping, the Uplift 800 control unit is parameterized with the software. The following functions are only available if the control unit has been configured accordingly.

### *4.3.1 Key lock*

With the key lock function, the control unit can be protected from inputs by the handswitch which were done accidentally. To lock or unlock the handswitch keys, the following steps are necessary:

1. 

Press S.

2. 
Press the Taste **desktop down button of the second motor group** shortly afterwards.

If the key lock was active, it will be deactivated now.
If the key lock was inactive, it will be activated now.

**Note:** The key lock function is only possible with the memory handswith HSF-MDF-4M4-KB.

If a movement key (Up/Down or Memory) is pressed when the key lock is active, the control unit shows the active key lock by an acoustic signal with the relays (slow double click after pressing a movement key)

**Note:** If the key lock is active, it will stay active even if the control unit is disconnected from mains power and connected again at any point in time.

### *4.3.2 Slow speed ranges*

The safety area function causes the system to stop before reaching the bottom position and resume the movement with reduced speed only after pressing the Down key again until the bottom position has been reached.

The safety area function is also active when a container stop position has been defined.

### *4.3.3 Container- and Shelf-Stop positions*

These 2 features can be used to limit the movement area of the desktop (e.g. if a container is placed underneath the desktop). A container stop position can be defined in the lower half of the movement area, a shelf stop position in the upper half. If a container stop position is set, this position will be the lower limit position. If a shelf stop position is set, this position will be the new upper limit position. To **store** a container stop / shelf stop position, go on as shown below:

1.  or

   Move the desktop to the position where the container stop/ shelf stop position shall be stored. Do so by pressing the **desktop down** or **desktop up** key until you reach the desired position.

   Note:

   A container stop position can only be stored in the lower half of the movement area and a shelf stop in the upper half.

2. 

   resp.

    and

   Press S if you have a handswitch with memory function.

   Press the **desktop down and desktop up simultaneously** if you have a handswitch without memory function.

   

   On the display (handswitch with memory function) **S –** will be displayed.

3. 

   Press **desktop up** within 5 seconds and keep it pressed for 3 seconds.

   The Uplift 800 will click **twice** when the container stop/ shelf stop position is stored.

---

**Note:** These steps have to be done for a container stop and a shelf stop position separately!

---

To **deactivate** the container stop/ shelf stop position go on as shown below:

1.  or

   Move the desktop to any position in the lower half to deactivate the container stop. / Move the desktop to any position in the upper half to deactivate the shelf stop.

   Do so by pressing the **desktop down** or **desktop up** key until you reach the desired position.

2. 

   resp.

    and

   Press S if you have a handswitch with memory function.

   Press the **desktop down and desktop up simultaneously** if you have a handswitch without memory function.

   

   On the display (handswitch with memory function) **S** – will be displayed.

3. 

   Press **desktop up** within 5 seconds and keep it pressed for 3 seconds.

   The Uplift 800 will click **once** when the container stop / shelf stop position is deactivated.

---

**Note:** These steps have to be done for a container stop and a shelf stop position separately!

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**Note:** this function is only available for motor group 1!

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### *4.3.4 Automatic drive recognition*

At initial start-up or after selecting the S0 menu the Uplift 800 motor control recognizes the number of drives connected. Prerequisite for this is successfully performing a reset.

**Note:** the functionality of the auto-detection is depending on the motor group settings in the software parameters of the Uplift 800. Please contact **The Human Solution** for further information!

### 4.3.5 Drive Back

**Note:** the function Drive Back is only active, if a pinch protection system (**ISP**, switches or pinch protection strips) is available and activated in software!

After a safety function is triggered by ISP, the desktop automatically moves about 40mm in the opposite direction. This immediately prevents any possible risk of pinching.

**Danger:** in spite of **ISP** being in place, there may still be a risk of pinching in exceptional cases, as it is not only the control unit, but also the interaction between all the components in the electric height-adjustable desk that is responsible for cutting out the motor. In addition, the mechanical components, motor and ambient conditions all affect cut-out sensitivity.

As the control unit distributer, **The Human Soltution** does not have an effect on this residual risk and cannot therefore accept any liability.

Please follow the safety instructions in the manual and treat our product with due care.

### 4.3.6 Duty cycle monitoring

Duty cycle monitoring means that when the control unit has been operating for a defined period, it is switched off for a set time (e.g. after 2 minute of continuous operation, the control unit is automatically disabled for the next 18 minutes).

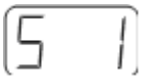
For motors with higher current consumption (e.g. HW-drives), it is possible that the duty cycle at higher currents (e.g. from 10A upwards) has to be lowered. The threshold current at which the duty cycle has to be reduced can be parameterized.

### 4.3.7 Change the displayed desktop position (cm or inch)

With this function it is possible to change the displayed desktop position from centimetres to inches or the other way around. The desktop position itself is not affected by this function.

1. 


Press the keys **memory position 1, 2** and **desktop up at the same time**. Keep the key combination pressed for about 3 seconds. Then release the keys.



The display will read **S and any number,** for instance **S 1**.

2. 

Press the **desktop up** key until the display reads S 5.

The display will show **S 5**.

3. 


Press the **memory key**.

If the display was set to centimetres, it will be changed to inches now.

If the display was set to inches, it will be changed to centimetres now.

**Note:** after starting the menu, the display will read **S and any number**, for instance **S 1**. The number depends on the parameters of the control unit.

### 4.3.8 Cascading

Cascading enables you to operate up to 12 motors synchronously by connecting multiple control units. A cascaded system acts in its basic functions like a single control unit.

**Note:** It has to be set in advance by parameter if a control unit will be used for cascading and how many control units are parts of the cascaded system.

It is possible to connect handswitches to any of the control units in the cascaded systems (it is also possible that each control unit has one handswitch). The only relevant handswitch is the one where a button is pressed first to start any movement. The control unit where this handswitch is connected to will be deemed as “Master control unit”, all other control unit will be deemed as “Slave control units”. If a button on a handswitch connected to any “Slave control unit” is pressed, the system will stop due to safety reasons.

**Note:** If 2 motor groups are used, the 2 groups will move to memory positions successively. That means that the first motor group will move to a memory position at first, and afterwards the motors of the second motor group will move to the memory position.

A cascaded system of 2 control units is shown below.

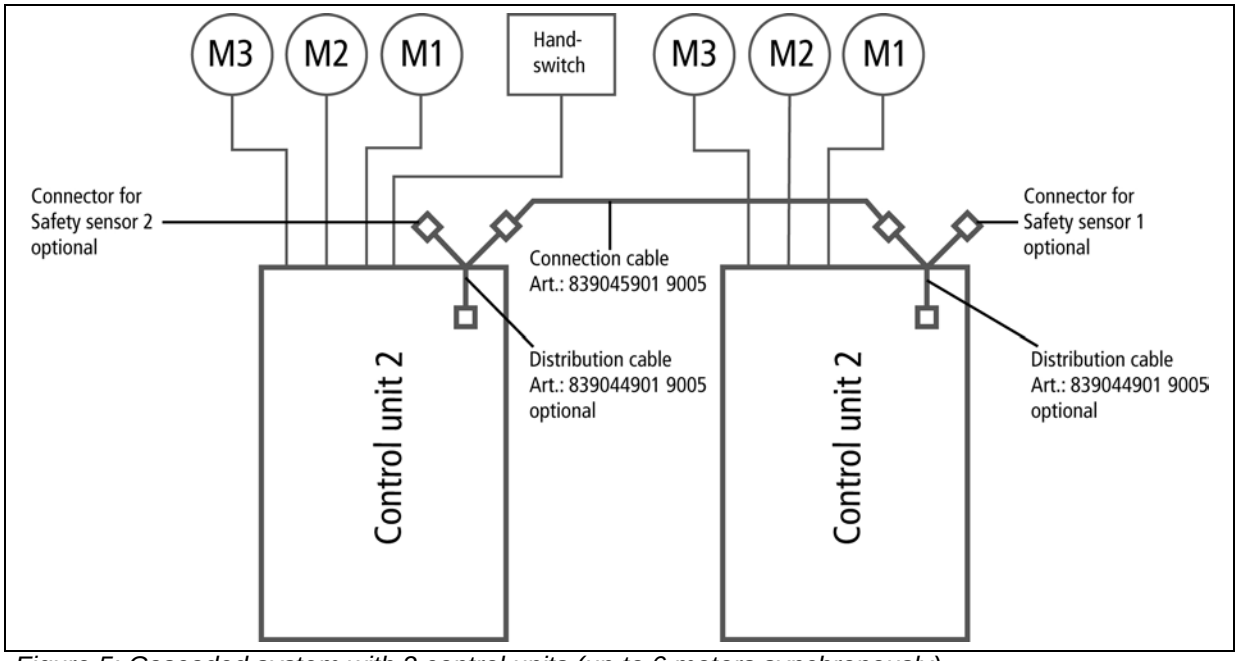



*Figure 5: Cascaded system with 2 control units (up to 6 motors synchronously)*

The cascading according to this model can also be used, if the power of a single control unit is not enough. For instance, in this case the first 2 motors can be connected to the first control unit and the third motor can be connected to the second control unit.

The connection between the 2 control units is set up by the distribution cable LOG-CBL-SYNC-500.

**Note:** If a KB safety sensor shall be connected to a control unit, the distribution cable LOG-CBL-LC-DATA-Y is necessary. In a cascaded system, at most one safety sensor can be connected to each control unit.

A cascaded system with 4 control units is shown below.

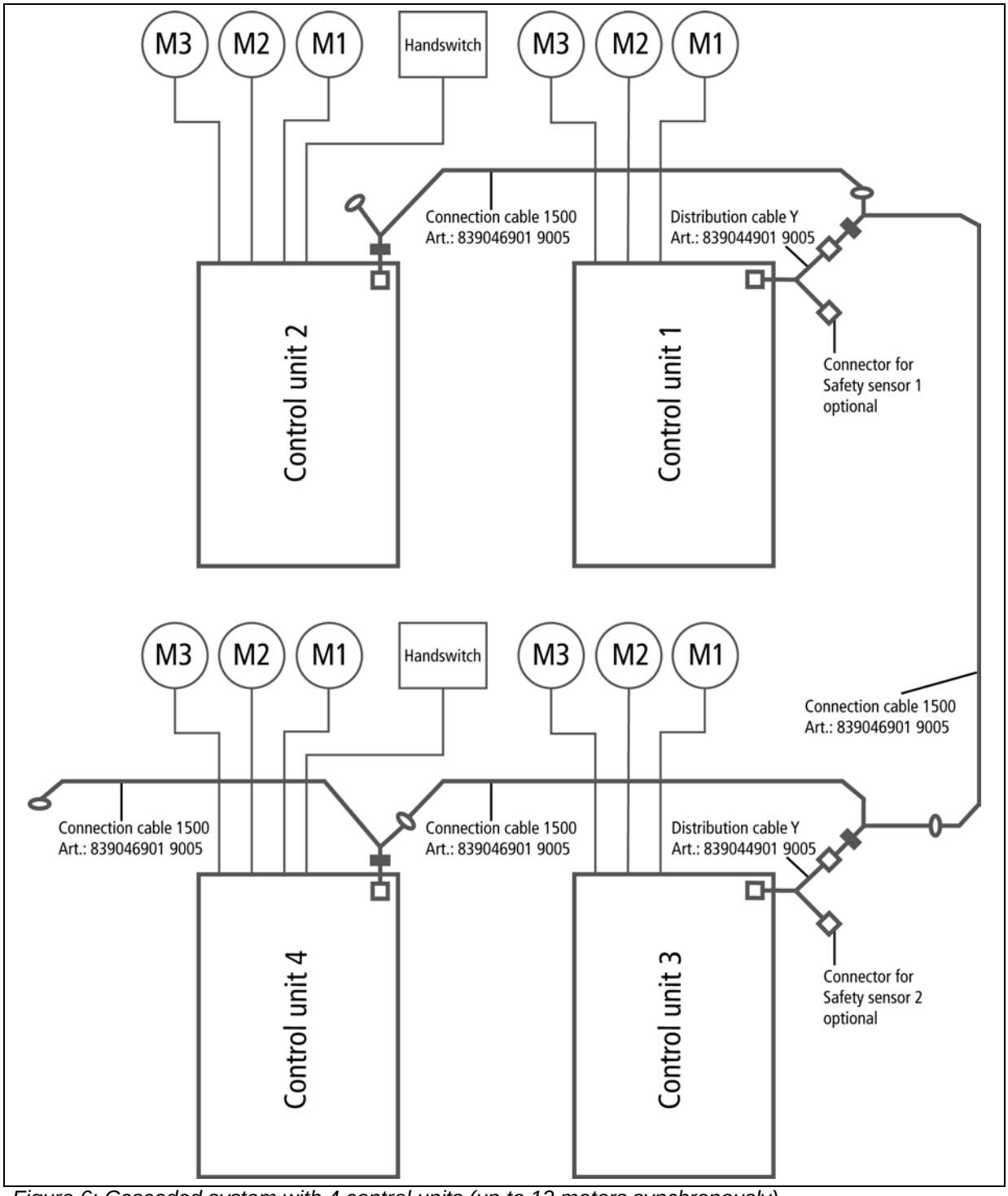



*Figure 6: Cascaded system with 4 control units (up to 12 motors synchronously)*

At each control unit, it is possible to use the distribution cable LOG-CBL-LC-DATA-Y to connect at most one KB safety sensor to the control unit. In the picture above, the cable is used at control unit 2 and 3 as an example.

### *4.3.9 Reset control unit to factory settings*

With this function you can reset the control unit to its factory settings.

1. 


Press the keys **memory position 1, 2** and **desktop up at the same time**. Keep the key combination pressed for about 3 seconds. Then release the keys.


The display will read **S and any number,** for instance **S 1**.

2. 

Press the **desktop up** key until the display reads S 0.


The display will show **S 0**.

3. 


Press the **memory key**.

The control unit will be reset to its factory settings.

---

**Note:** after starting the menu, the display will read **S and any number**, for instance **S 1**. The number depends on the parameters of the control unit.

---

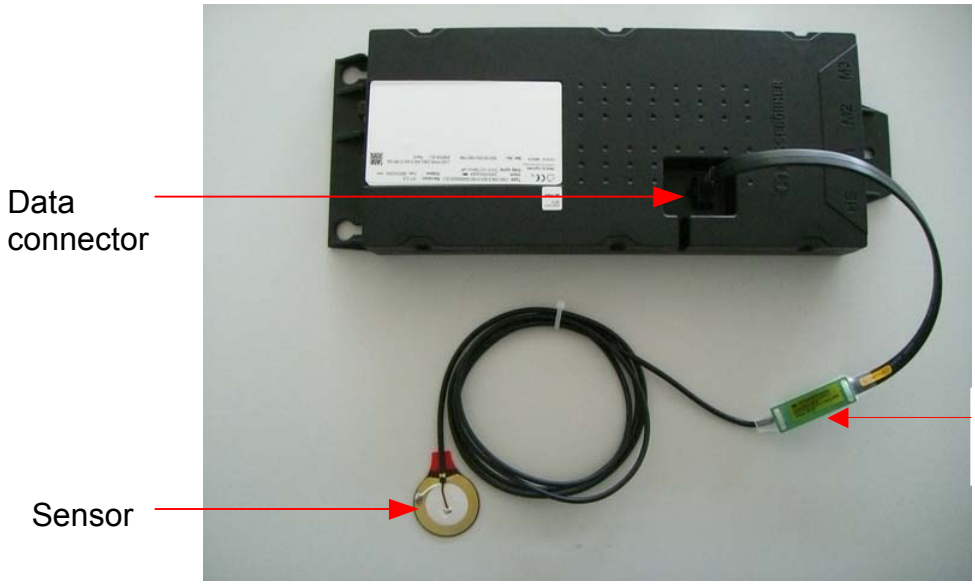
# 5. Sensor

The table base can be equipped with a safety sensor in order to provide highly sensitive collision protection. As soon as the base experiences torsions of the type generated by collisions and the sensor detects these torsions, an impulse will cause the control unit to stop the movement and drive ca. 40 mm in the opposite direction.

**Note:** The sensitivity and the achievable switch-off threshold of the sensor depend on the entire system and is not the same in all places due to design features.

**Attention – Safety Notice:** Even when equipped with a sensor, the collision protection is by no means considered personal protection equipment and may not be classified and/or described as such!

**Note:** The optimal positioning of the sensor must be adjusted to the base type. The mounting of the sensor in a randomly chosen point may not have the desired result and can even have adverse effects on the tabletop movement due to inadvertent triggering. Sensors can only be installed once. Removal renders them inoperative.




After mounting the sensor at a defined location it will be connected with the control unit via the data connector.

## 5.1 Training the Sensor

**Note:** Please strictly follow the order detailed below!

The sensor can only be trained to work with a control unit that still has its factory setting and requires a reset to be activated. If this is not the case, the control unit must be reset to its factory setting by using a dongle or via the S0 menu of the LUD hand switch.

**Step 1:** Connect the sensor with the control unit at the data connector before it is connected with the mains.

**Step 2:** Connect the control unit with the mains. The recognition of the control unit is confirmed by a double clicking sound. This is followed by a second double clicking sound ca. 3-4 seconds later which confirms the recognition of the sensor. Performing a reset at this point will train the sensor.

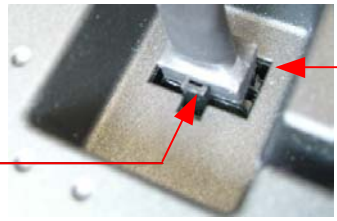
## 5.2 Untraining the Sensor

**Note:** Please strictly follow the order detailed below!

Untraining the sensor can only be done by using a dongle or via the S0 menu of the LUD hand switch.

**Step 1:** Disconnect the sensor from the control unit at the data connector. On the plug (cable outlet) there is a rocker with a latch that has to be pressed at its top end (using the fingertip or a small screwdriver or similar tool) to remove the plug.

Press rocker at the top end in direction of the arrow to remove the plug




**Step 2:** See section 6. Programmable Dongle for the steps required to untrain the sensor by using a dongle.

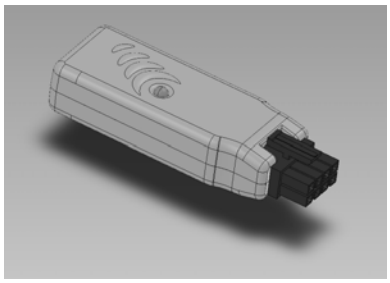
Follow the steps shown in section 4.3.9 Reset Control Unit to Factory Settings (S0 menu) to untrain the sensor via the S0 menu.

**Step 3:** Performing a reset at this point will untrain the sensor.

# 6. Programmable dongle

The programmable device is a module that can be connected with the data connector of the motor control. The dongle contains a memory to which a set of control parameters can be saved.

Thus the dongle may be used to modify the factory-set parameters of a control.



## *6.1 Parameterizing individual controls*

To parameterize individual controls (motor controls which are not part of a cascading network), proceed as follows:

**Note:** Please strictly follow the order detailed below!

**Step 1:** **Disconnect the motor control from the mains power.**

**Note:** At the start of the process the control must be without current. Also the dongle must not be connected to the motor control!

**Step 2:** **Connect the dongle to the motor control (data connector).**

**Step 3:** **Reconnect the power supply of the motor control.**

As soon as the motor control is connected to mains power, you will hear a double clicking sound from the motor control.

The control recognizes the dongle, performs a compatibility check, and automatically starts the parameterization. During the parameterization the LED on the dongle shines red.

**Attention:** D o not di sconnect any p lug-in connect ions dur ing parameterization!

As soon as the parameterization process has finished, the LED on the dongle changes to green and the motor control puts out a double clicking sound.

**Note:** Should the LED on the dongle still be red after parameterization, the parameterization was not successful. In this case please start again with step 1. Should the problem persist, please contact **The Human Solution** for support!

**Step 1:** **Unplug the dongle from the motor control.**

The control is now parameterized and in its normal operating state.

**Note:** In some cases a manual reset has to be performed after parameterization.

**Note:** Please read about how to perform a manual reset in the instruction manual of your motor control .

# 7. Technical data

| | |
|---|---|
| Supply voltage | EU: 207-255,4V / 50Hz<br>US: 90-127V / 50-60Hz |
| Standby power, primary (typical) | <0.7W |
| Efficiency factor (typical) | 83% @ 300W input power |
| Operating voltage for internal and external electronics and Hall sensors | 5VDC ±10% 250mA |
| Precision of Motor current measurement<br>@ 100% Output Voltage and 4-8A per motor<br><br>Other cases | ±20%<br><br>Contact **The Human Solution** |
| Ambient temperature | 0-30°C |
| Relative humidity (for operation) | 5-85% (non condensing) |
| Storage and transport temperature | -40-85°C |
| Relative humidity (for storage) | 5-90% (non condensing) |
| Protection class (with earth terminal) | I |
| IP class | IP20 / IP31 (according to design) |
| Dimensions (L x B x H) [mm]<br><br>Tolerances | 319 x 119 x 37<br><br>according to DIN ISO 2768-1 c |
| Control unit | **Normal cycle 2/18:**<br>2min move: 7A@33V 231W<br>Break: 18m in |
| Max. current per motor channel | 8A per motor channel<br>Maximum sum current restricted, values shown above |
| De-Rating for temperatures >30°C | See Figure 7 on page 36 |
| Weight (typical) | 600g |

## De-Rating of the output power

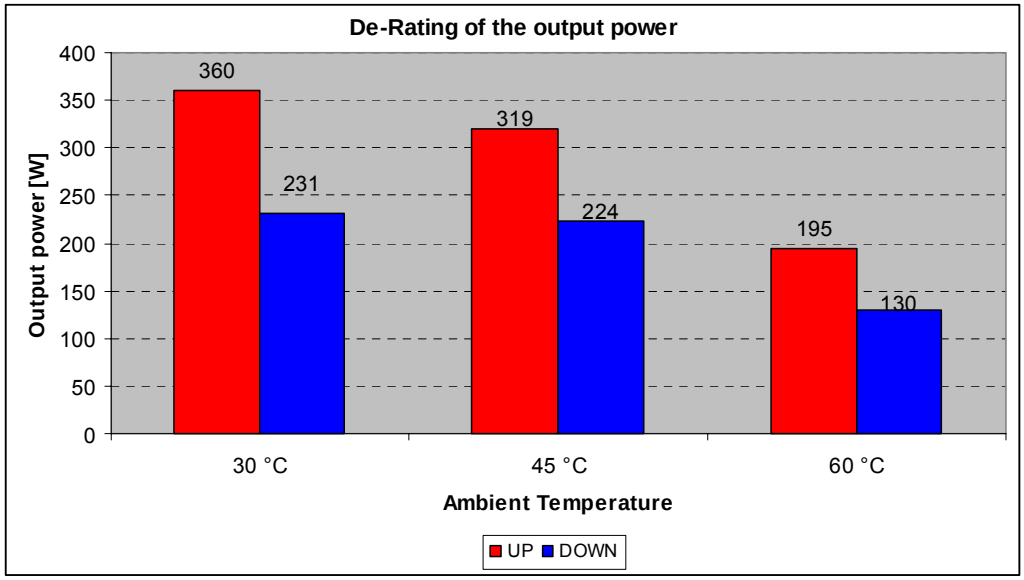



*Figure 7: De-Rating for temperatures >30°C*

The shown values are valid for the normal cycle of a control unit for belt drives (cycle 30s UP, 30s DOWN, 9min Pause).

## Nameplate

The figure below shows the nameplate and its location on the control unit.

**Note:** the details on the nameplate depend on the Uplift 800 control unit model (see technical data).

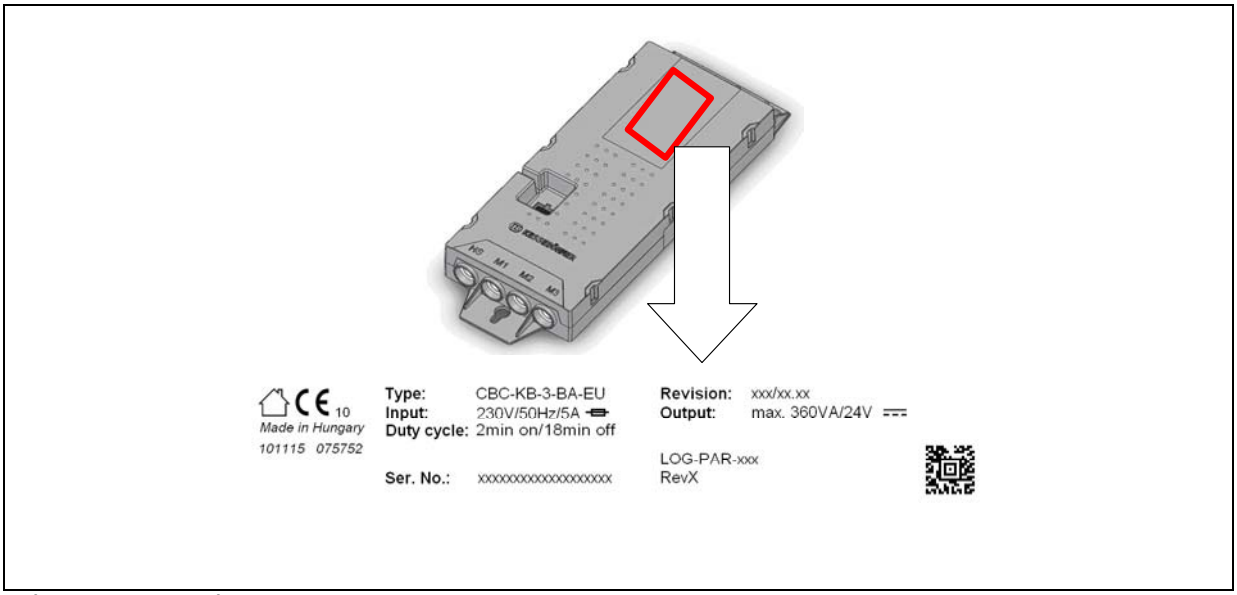



*Figure 8: Nameplate*

# 8. Appendix

In this section you will find detailed information on the following topics:

- Possible faults and remedies
- Error messages on the handswitch display
- Click codes

## 8.1 Possible faults and remedies

**Drives not working**

| **Possible cause** | **Remedy** |
|---|---|
| Power cord is not connected | Plug the power cord into the control unit |
| Drives are not connected | Plug the motor cables into the control unit |
| Poor plug contact | Plug the motor cables, power cord and handswitch in properly |
| Control unit is defective | Contact customer service |
| Handswitch is defective | Replace the handswitch |

**Drives only operating in one direction**

| **Possible cause** | **Remedy** |
|---|---|
| Mains power breakdown or mains power is plugged off **during movement** | Manual Reset*) |
| Control unit is defective | Contact customer service |
| Handswitch is defective | Replace the handswitch |
| Drive is defective | Contact customer service |

*) If movement is only possible downwards

**Control unit or handswitch not working**

| **Possible cause** | **Remedy** |
|---|---|
| Power cord is not connected | Plug the power cord into the control unit |
| Handswitch is not connected | Plug in the handswitch |
| Control unit is defective | Contact customer service |
| Power cord is defective | Contact customer service |
| Handswitch is defective | Replace the handswitch |
| Poor plug contact | Connect the plugs properly |

## 8.2 Error messages on the handswitch display


The display reads **HOT**.

| Cause | Remedy |
|---|---|
| Uplift 800 control unit is fitted with overheating protection. Overheating has caused it to stop the control unit. | Wait until the control unit has cooled down and **HOT** is no longer displayed. Uplift 800 control unit is then operational again. |


The display reads **E** + an error code.

| Cause | Remedy |
|---|---|
| There is an internal fault in Uplift 800 control unit. | Proceed as indicated in the following error list. |

| Code | Description | Remedy |
|---|---|---|
| 00 | Internal Error Channel 1 | Unplug power cord and contact the customer service. |
| 01 | Internal Error Channel 2 | |
| 02 | Internal Error Channel 3 | |
| 12 | Defect Channel 1 | Unplug the control unit.<br><br>Fix the external short circuit.<br>Or<br>Plug in the correct motor to the motor socket that shows the error.<br><br>Start the control unit again. |
| 13 | Defect Channel 2 | |
| 14 | Defect Channel 3 | |
| 24 | Overcurrent motor M1 | Remove jammed objects from the driving area.<br>Desk might be overloaded → remove load from desktop.<br>Contact customer service. |
| 25 | Overcurrent motor M2 | |
| 26 | Overcurrent motor M3 | |
| 48 | Overcurrent motor group 1 | |
| 49 | Overcurrent motor group 2 | |
| 60 C | ollision protection | |
| 62 | Overcurrent control unit | |

| Code | Description | Remedy |
|---|---|---|
| 36 | Plug detection in M1 motor socket | Plug in the correct motor to the motor socket that shows the error.<br>Reset all motors. |
| 37 | Plug detection in M2 motor socket | |
| 38 | Plug detection in M3 motor socket | |
| 61 A | ctuator changed | |
| 55 S | ynchronization lost motor group 1 | Remove load from desktop.<br>Reset all motors;<br>If error occurs after reset again, contact customer service |
| 56 S | ynchronization lost motor group 2 | |
| 67 | High voltage | Unplug power cord and contact the customer service. |
| 70 | Motor configuration changed | See chapter 4.3.3. |
| 71 A | nti-Pinch configuration changed | See chapter to activate or deactivate the anti-pinch configuration |
| 81 | Internal error | Make a manual reset.<br><br>Unplug power cord and plug it in again after a few seconds.<br><br>If this error occurs frequently, unplug the power cord and contact the customer service. |

**Danger:** the **PowerFail detection** identifies mains power breakdowns and saves all relevant data before the voltage falls below a critical threshold.

In some exceptional cases this storage is not possible and the error **E81** is shown on the handswitch display (if available) and the Uplift 800 clicks three times.

To rectify this error, a **manual reset** is necessary (see page 20).

### 8.3 Click codes

When the control unit is switched on the Uplift 800 uses its relays to inform the user acoustically about the system state and the reason why the control unit was switched off before. The table below shows which number of clicks corresponds to certain information.

| Number of clicks | State information |
|---|---|
| 2x with short interval (fast double click) | **Normal operation:**<br>No problems detected.<br>This signal will be put out only when the control unit is connected to mains power. |
| 2x with long interval (slow double click) | **Key lock active:**<br>This signal will be put out every time if the desktop shall be moved and the key lock is active. (Up/Down-Key or memory keys) |
| 2x with long interval (slow double click) | **Reset mode:**<br>The system was put into reset mode.<br>This signal will be put out every time if the desktop shall be moved in reset mode. (Up/Down-Key or memory keys) |
| 3x with short interval (fast triple click) | **Sensor missing:**<br>The safety sensor is not connected to the control unit.<br>This signal will be put out every time if the desktop shall be moved. (Up/Down-Key or memory keys) |
| 3x with long interval (slow triple click) | **Duty cycle exceeded:**<br>This signal will be put out every time if the desktop shall be moved downwards. (Down-Key) |

**Note:** The Click codes that occur when you store or deactivate a container-stop or shelf-stop position are shown in the chapter 4.3.3.

# 9. Hand Switches Overview

## Basic Switch


*Fig. 1: Keys at LU hand switch*

## Digital Display with Memory Switch


*Fig. 2: Keys at LUD hand switch*

## Display overview

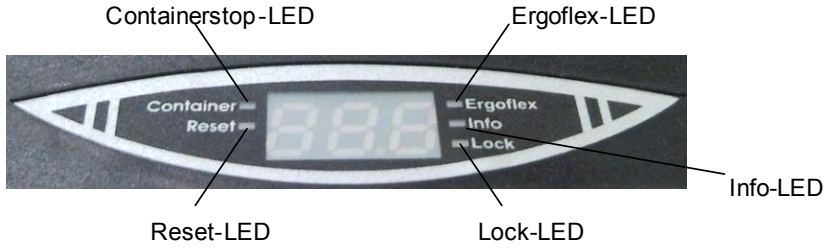



*Fig. 3: Display at LUD*

## Digital Display Switch

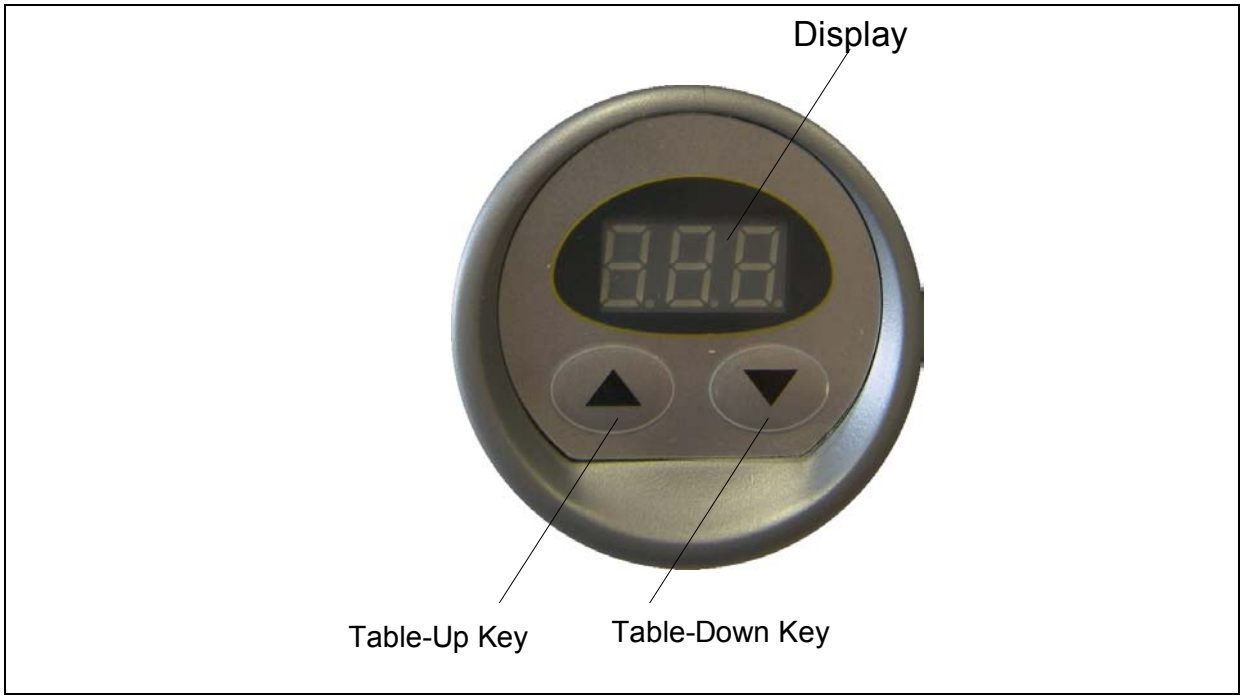



*Fig. 4:Keys and Display at LO*

# 9. Further information

## 9.1. End of life disposal

When you no longer require the Uplift 800 control unit, please note the following for disposal:

**Note:** the Uplift 800 motor control box is electrical or electronic equipment according to directive 2002/96/EC and is therefore marked with the symbol depicted on the left.

**Note:** ensure eco-friendly disposal of all the control unit components (separate the plastic and electronic parts for collection).

Also ensure eco-friendly disposal of all the other components (drives, cables, etc.).

### 9.2. Standards

**Europe**

- DIN EN 60335-1:2002+A11:2004+A1:2004+A12:2006+A2:2006+A13:2008
- DIN EN 61000-6-3 / VDE 0839-6-3: 2007
- DIN EN 61000-6-2 / VDE 0839-6-2: 2006-03
- DIN EN 61000-3-2:2006
- DIN EN 61000-3-3:2007
- DIN EN 61000-4-6
- DIN EN 61000-4-5
- DIN EN 61000-4-4
- DIN EN 61000-4-3
- DIN EN 61000-4-2
- DIN EN 61000-4-11
- EN 13849-1 Teil 1
- EN 62233

**Australia**

- IEC 60335-1:2006
- DIN EN 61000-6-3*VDE 0839-6-3: 2007 09
- DIN EN 61000-6-2*VDE 0839-6-2: 2006 03

### 9.3. Declarations of conformity

**United States of America and Canada**

- cULus 60950-1
- CSA C22.2 60950-1-03

**Japan**

- S-Mark

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RoHS

**Note:** this product is RoHS compliant according to directive 2002/95/EC!

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REACH

**Note:** this product is REACH compliant according to directive 2006/121/EC (Edict 1907/2006)

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