User Manual

Control Unit for an Electric Height-Adjustable Desk

LogicS-2 / LogicS-3
Rev 5

LOGIC office

MOTION FOR YOUR LIFE

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Contents

1. Preface

Dear Customer,

Thank you for choosing a **LogicS-2** / **LogicS-3** control unit for electric height-adjustable desks from **LOGICDATA Electronic & Software Entwicklungs GmbH**. You are now in possession of a state-of-the-art product that complies with all the relevant safety requirements.

1.1   Intended use

LogicS-2 / LogicS-3 control units may only be used for the intended purpose, i.e. to control electric height-adjustable desks. Only motors that meet **LOGICDATA** 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 **LOGICDATA**. Their basic function is upward and downward adjustment of the desktop, which can be controlled with all the handswitches available.

1.2   LogicS-2 / LogicS-3 control unit functionality

The LogicS-2 / LogicS-3 control units incorporate the following features (the availability of some of the features depends on the handswitch used):

- Control units are available for various mains voltages
- A wide selection of **LOGICDATA** handswitches is available for the control units
- Additional functions are available, depending on the handswitch model used (e.g. saving desktop positions, adjusting the desktop to saved positions, etc.)
- **ISP (Intelligent System Protection)**
- Configurable stop conditions (overtemperature, overcurrent, timeout, limit switch)
- Configurable reset conditions
- Variable duty cycle
- Mains cut-off with variable switch-off time
- Two definable motor groups
- Automatic motor detection
- PLUG DETECTION function
- Up to six memory positions
- Additional pinch protection with optional pinch protection strip
- DRIVE BACK function for various conditions
- AUTO MOVE function
- FLEX MEMORY with random function
- SIT/STAND memory

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 LogicS control units:

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

1.4 Differences in LogicS-2 / LogicS-3 control unit performance

LogicS-2   The LogicS-2 control unit can be used with up to **2** motors for electric desk height adjustment.

LogicS-3   The LogicS-3 control unit can be used with up to **3** motors for electric desk height adjustment.

Note: for further differences, please refer to the data sheets on the LogicS-2 and LogicS-3 control units

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1.5 Symbols used in safety instructions

This user manual contains safety instructions with symbols drawing 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: this warning advises you of **possible dangers from electric current**.

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

Note: this symbol advises you of important information that must be noted for operating the LogicS control unit safely.

Danger: this warning advises you of a possible 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.

1.6   ISP (Intelligent System Protection)

ISP is an electronic state-of-the-art protection system developed by **LOGICDATA**. It also substantially reduces the risk of 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 manufacturer, **LOGICDATA** cannot therefore eliminate this residual risk completely or accept any liability.

Please note the following for maximising ISP functionality:
To ensure the best possible pinch protection, a **mechanical brake** must be fitted that is applied when the electric height-adjustable desk moves down.

Note: without a mechanical brake, cut-out sensitivity may be reduced under load. However, if there is no load on the desktop, ISP will function properly even without a brake.

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).

1.7 Package contents

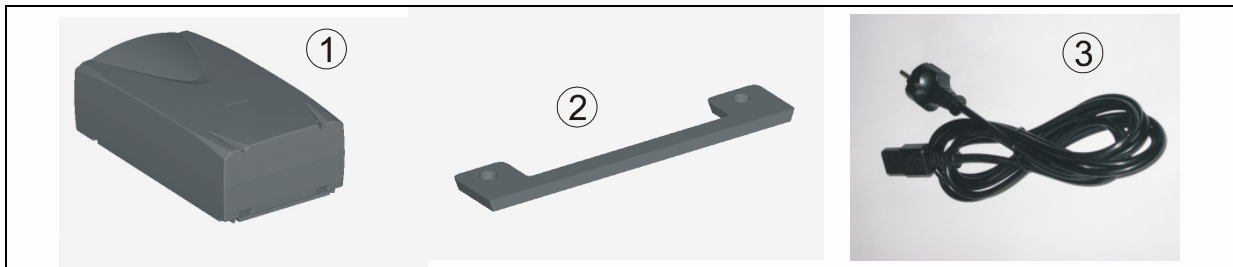The LogicS control unit is supplied together with the following components as standard:

Fig. 1 – Package contents

① LogicS control unit with mounting link

② Mounting plate

③ Power cord

> **Note:** for detailed information on optional control unit components and accessories, see page 34.

1.8 Unpacking

The LogicS control unit comes packed in a cardboard box. Some components are also sealed in plastic film. To unpack, proceed as follows:

1. Remove the cardboard and plastic film from the control unit components.
2. Check the package contents.
3. Dispose of the packaging materials.
4. 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).

1.9 Safety instructions

This user manual contains safety instructions that draw your attention to any possible risks, thus enabling safe operation of the LogicS 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 LogicS control unit itself.

1.9.1 General safety instructions

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

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

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

LogicS control units are also available for the mains voltages used in other countries. The above values do not apply to them, but you will find detailed information in the relevant user manual.

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

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 LogicS control unit to moisture, drips or splashes.

Danger: when changing the desktop position (especially without using pinch protection), 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 LogicS 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 and 4.3.1) and limit position calibration (3.14.2.6). 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 LogicS control unit with a dry or slightly moist cloth. Before cleaning, you must always unplug the power cord.

1.9.2 Important notes for OEMs

What we mean by OEMs is companies that purchase LogicS control units from **LOGICDATA** 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 in the relevant EU language.

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 unauthorised individuals (e.g. small children, people under the influence of drugs, etc.) can tamper with your product or the control unit.

1.10 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. LogicS installation instructions

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

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

Caution: the power cord must be unplugged while the LogicS control unit is being mounted.

To mount the LogicS control unit, proceed as follows:

Note: we recommend using the drill template to help with mounting. You will find the template on page 37. If you do not wish to use it, please follow the mounting instructions carefully.

1. Attach the mounting plate and position the control unit where you want it under the desktop.
2. Mark the edge of the mounting plate with a pencil.
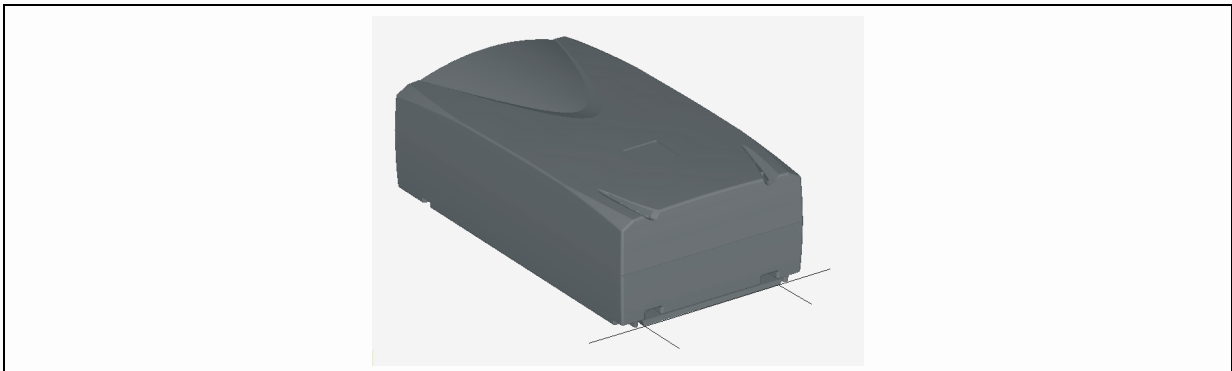
Fig. 2 – Step 1

3. Remove the mounting plate again.
4. Align the mounting plate along the pencil line and mark the two drill holes with a pencil.
5. Pre-drill these two holes.

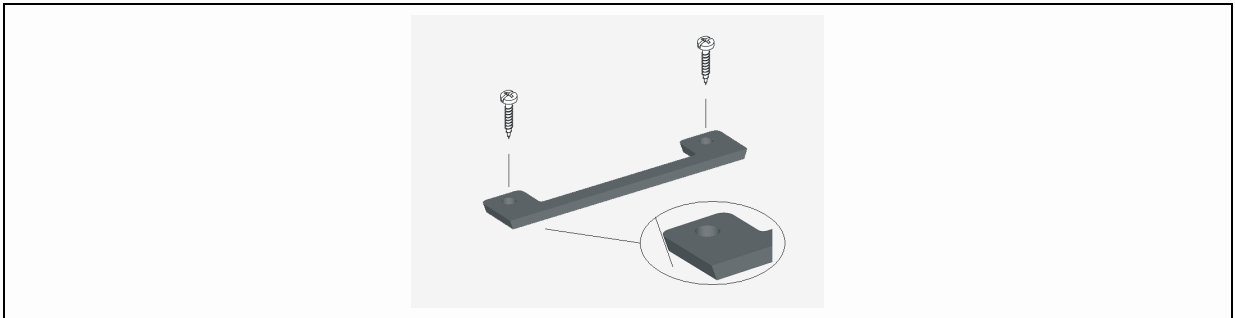6. Fix the mounting plate with two screws in the pre-drilled holes.

Fig. 3 – Step 6

Note: the mounting plate is wedge shaped (see Fig. 3).

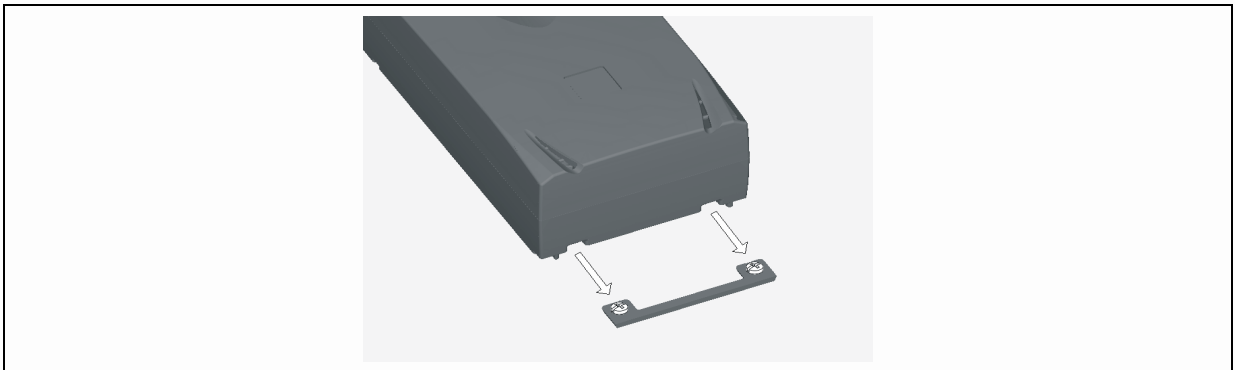7. Hook the LogicS control unit onto the mounting plate sliding it in as far as it will go.

Fig. 4 – Step 7

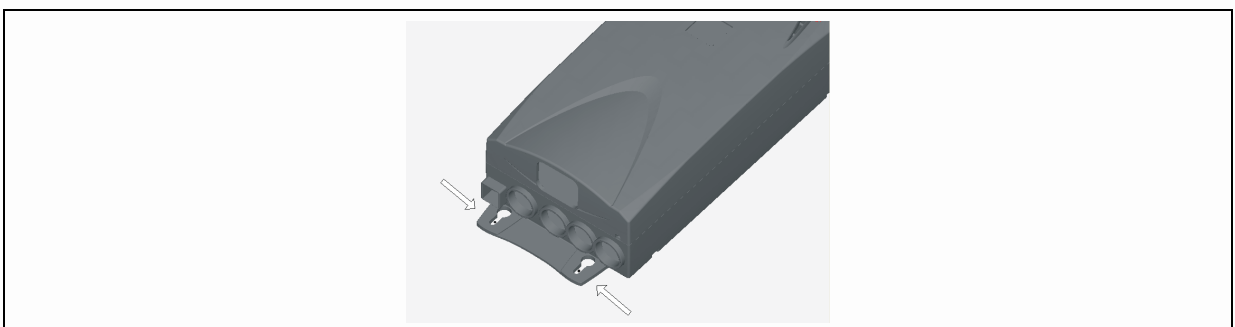8. Mark the drill holes for the mounting link with a pencil.

Fig. 5 – Step 8

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9. Remove the control unit again.
10. Pre-drill these two holes.
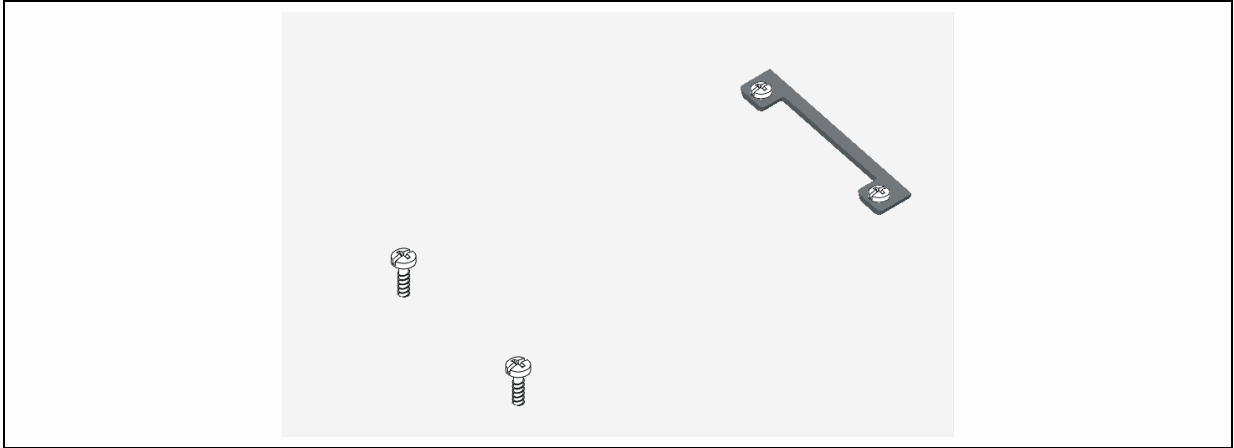11. Screw the remaining two screws **halfway** into these two holes.

Fig. 6 – Step 11

12. Hook the control unit onto the screws you have just inserted.
13. Slide the unit onto the mounting plate as far as it will go (ensuring that it fits properly on the plate).
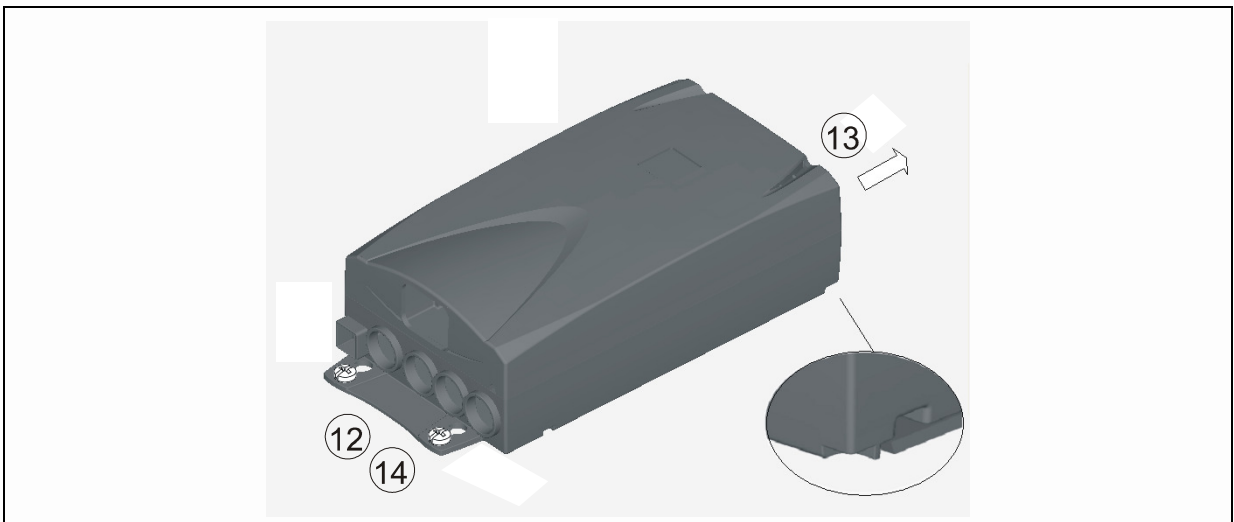14. Tighten the last two screws properly.

Fig. 7 – Steps 12, 13, 14

3. Commissioning

Commissioning involves the procedures required to ensure that the height of an electric height-adjustable desk can be adjusted with the LogicS control unit. Requirements for commissioning:

- The LogicS control unit must be mounted (as described in section 2)
- The table legs for adjusting the desktop must be mounted

⚠️ **Danger:** only qualified technicians may commission the control unit. Qualified technicians have the necessary electrical engineering training and are familiar with this user manual.

3.1 LogicS sockets

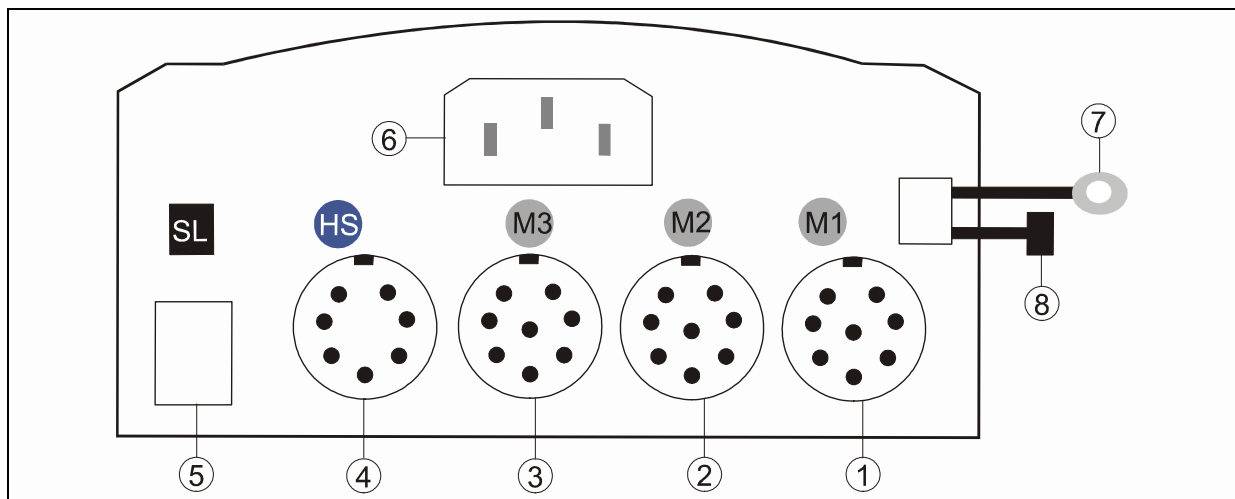The LogicS control unit (LogicS-3 can drive three motors) has the following sockets:

Fig. 8 – Sockets

①	Motor socket 1 (M1)
②	Motor socket 2 (M2)
③	Motor socket 3 (M3)
④	Handswitch socket (HS)
⑤	Pinch protection strip socket (see 3.2.3)
⑥	Mains socket
⑦	Cable lug for earthing the desk frame (optional)
⑧	Connector for mains cut-off (optional)

3.2   Commissioning procedure

To commission a LogicS control unit, proceed as follows.

3.2.1   Connect drives

Plug the motor cables into the relevant 8-pin motor sockets (M1, M2, 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: you can choose from a wide range of **LOGICDATA** handswitches for the LogicS control unit.

For technical data on the handswitches, see page 34.

3.2.3   Connect optional components

If your control unit has an **earthing cable**, attach it to a metal part of the desk.

If your unit has an optional **pinch protection strip**, plug it into the SL socket ⑤.

Danger: to ensure correct functioning of the pinch protection strip, it must be installed by an authorised technician.

If you wish to use a **mains cut-off**, plug it into the connector ⑧ (see also page **Fehler! Textmarke nicht definiert.**).

3.2.4 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 LogicS control unit is operational.

3.2.5 System configuration (example)

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

①   1 LogicS-3 control unit
②   3 motors (hidden in the table legs)
③   HSU-MDF-OK-LD handswitch
④   1 pinch protection strip
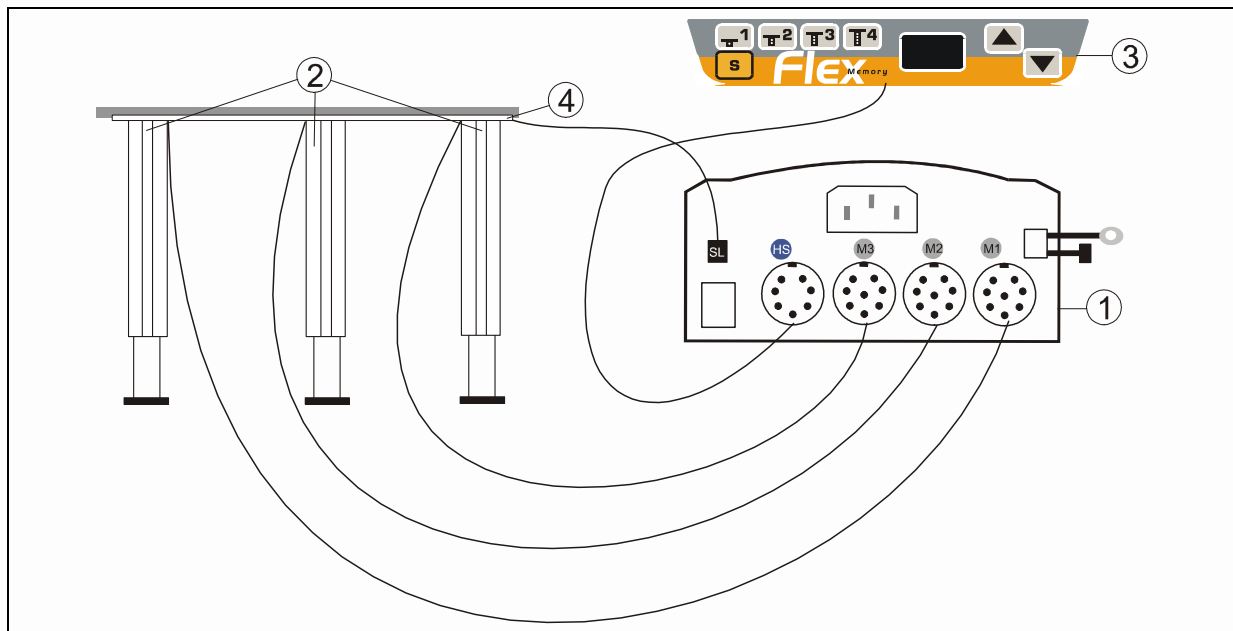
Fig. 9 – Configuration example

4. Operating the LogicS control unit

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

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 LogicS 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 LogicS control units.

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:

1. Press the **desktop down** key.
2. 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.
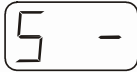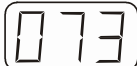
4.2 Advanced functions

> **Note:** you can only use the following functions of the LogicS 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 LogicS control unit for the first time, all the saved positions are set to the lowest desktop height (minimum desktop position).

1.	▲ `073`	Adjust the desktop to the position you want to save. The display will show the desktop height (e.g. 73cm).
2.	**S** `5 -`	Press the memory key. The display will read **S –**.
3.	**T 2** `5 2`	Press the required **memory position key** (e.g. 2). The display will read **S 2**.
4.	`073`	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:** the design of the memory position keys varies, depending on the handswitch model used.

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.
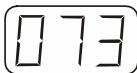

Option A (without double click function)

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. **S** Press the memory key.

   5 - The display will read **S –**.

2. **▼** Press the **desktop down** key (down arrow) for approx. 5 seconds.

   073 The display will start flashing.

3. **▼** **▲** Adjust the height displayed by pressing the **desktop down** (down arrow) or **desktop up** key (up arrow).

4. **S** 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.

4.2.4 Manual reset

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.

1. **▼** Press the desktop down key.
   Keep pressing it until the desktop has reached the lowest position (programmed desktop position).

2. **▼** Press the **desktop down** key 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.

4.2.5 Enabling limit position calibration

The service technician enables limit position calibration during the commissioning procedure.

Note: availability of the S 7 function depends on the parameters set for the control unit.

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1. Press the keys **memory position 1**, **2** and **desktop up at the same time**. Keep the key combination pressed for about 10 seconds. Then release the keys. The display will read **S 0**.

2. Press the **desktop up** key until the display reads S 7.

    The display will show **S 7**.

3. Press the memory key.

4.2.6 Limit position calibration

The limit positions must be calibrated during commissioning after the control unit has been installed.

Note: there is the option of having all the settings required for commissioning carried out at the factory.

To calibrate the limit positions, proceed as follows:

1.   **068** flashes on the display.

2.   Press the **desktop down** key until the desktop reaches the lowest position.

3.   Set the current desktop height on the display.
Press **memory position key 1** to increase the desktop position displayed (movement locked in every direction).
Press **memory position key 2** to decrease the desktop position displayed (movement locked in every direction).

4.   Press the memory key.

088 will flash on the display.

5.   Press the **desktop up** key until the desktop reaches the highest position.

6.   Set the current desktop height on the display.
Press **memory position key 1** to increase the desktop position displayed.
Press **memory position key 2** to decrease the desktop position displayed.

7.   Press the memory key. The display will show the current desktop position (display no longer flashing).

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.

4.3 Software-dependent functions

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

4.3.1 Reset after POWER ON

After every POWER ON (e.g. plugging in the power cord), the following reset procedure is carried out:

1.   The **desktop up** function is locked (the **desktop up** key has no function during this phase).
2.   If you press the **desktop down** key, the desktop will move at half speed to the lowest position.
3.   Normal operation is now possible again.

> **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.

4.3.2 Slow speed ranges

This function (low speed) automatically slows down the desktop during adjustment before it reaches the following positions:

- Highest and lowest desktop positions
- All saved positions

4.3.3 Auto Move

From an ergonomic point of view, it is advisable to change your desktop height regularly. The Auto Move function reminds the person using the electric height-adjustable desk to change the desktop position. It consists of a brief UP and DOWN movement of the desktop.

> **Note:** the time interval for the reminder function is configured using the software.

4.3.4 Flexible desktop positions

This function is also an ergonomic feature. It changes all the saved desktop positions slightly at random.

The function is available for:

- The last previously set highest and lowest desktop positions
- All saved desktop positions

> **Note:** the range for varying the saved desktop positions at random is configured with the software.

4.3.5 PIN code

The **PIN code** function locks the handswitch. This means that all handswitch functions are disabled (e.g. adjusting the desktop to a saved position, saving a new height position, etc.).

Locking with PIN code

Press the memory key until the control unit clicks twice and the display reads **001**.
The display shows **001**.
The control unit (handswitch operation) is then locked.

Unlocking with PIN code

To unlock the control unit, enter a 3-digit key combination with the position keys.

> **Note:** the default key combination is 1-2-3 (to enable it, quickly press position keys T1, T2, T3 one after another).

Changing the key combination

1. **1** **2** **▲**

   Press the keys **memory position 1**, **2** and **desktop up at the same time**. Keep the key combination pressed for about 10 seconds. Then release the keys. The display will read **S 0**.

   `5 0`

2. **▲**

   Press the **desktop up** key until the display reads S 6.

   `5 6`

   The display will show **S 6**.

3. **S**

   Press the memory key.

   `002`

   The display will show **002**.

4. **1** **2** **T4**

   Now enter the required key combination to unlock the handswitch (e.g. T1, T2, T4).

4.3.6 Mains cut-off

The mains isolation function causes the power supply to the control unit to switch off automatically 20 seconds after it is last used (the time can be configured by computer). This function plays a significant role in reducing electric smog.

Requirement for the mains isolation function

The mains cut-off cable (with a 3-pin socket) must be connected to the power cord.

Note: this 3-pin socket must be in contact with the mains cut-off plug on the control unit. The function must be configured using the software.

Fig. 10 – Mains cut-off

4.3.7 Safety area

This function triggers a safety stop at a defined desktop position (configured with the software). The safety stop functions as follows:

1. Press the **desktop down** key (and hold it down). The desktop will move to the start of the safety area.
2. The desktop movement will stop just before the safety area.
3. Press the **desktop down** key again. The desktop will then move to the lowest position.

Note: you cannot save desktop positions in safety areas.

4.3.8 Plug detection

The LogicS control unit can detect whether a motor is plugged into the relevant socket. In addition, the control unit detects whether a motor has been replaced (this function depends on the motor used).

4.3.9 Drive Back

Note: the Drive Back function is only enabled if the **ISP** (intelligent system protection) or a pinch protection strip is used.

After a safety function is triggered (by **ISP** or the pinch protection strip), the desktop automatically moves a defined distance 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 manufacturer, **LOGICDATA** 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.

4.3.10 Auto detect number of drives

During every reset, the control unit checks how many drives are connected. It then automatically configures itself to the number of drives detected.

4.3.11 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).

5. Technical data

General

Supply voltage	230V ±6% / 50Hz
Standby power, primary	1.1W
Operating voltage for electronics	5VDC ±5% 150mA
Hall sensor supply voltage	5VDC ±10% 150mA
Ambient temperature	0-35°C
Relative humidity (for operation)	5-85% (non condensing)
Relative humidity (for storage)	5-90% (non condensing)
Protection class (with earth terminal)	I
Protection class (without earth terminal)	II
Power cord (length)	3m
Dimensions (L x B x H) [mm]	214 x 109 x 62

LogicS-3-XXX-360VA

Switching capacity 10% (1 min on / 9 min off)	360VA / 11A / 33V @ 25°C
Switching capacity 5% (30 sec on / 9:30 off)	390VA / 13A / 30V @ 25°C
Switching capacity 10% (1 min on / 9 min off)	13A up, 2A down
Weight	2.6kg

LogicS-3-XXX-340VA

Switching capacity 10% (1 min on / 9 min off)	340VA / 11A / 31V @ 25°C
Switching capacity 5% (30 sec on / 9:30 off)	360VA / 13A / 28V @ 25°C
Switching capacity 10% (1 min on / 9 min off)	13A up, 2A down
Weight	2.2kg

LogicS-2-XXX-340VA

Switching capacity 10% (1 min on / 9 min off)	340VA / 11A / 31V @ 25°C
Switching capacity 5% (30 sec on / 9:30 off)	360VA / 13A / 28V @ 25°C
Switching capacity 10% (1 min on / 9 min off)	13A up, 2A down
Weight	2.1kg

LogicS-2-XXX-240VA

Switching capacity 10% (1 min on / 9 min off)	240VA / 9A / 27V @ 25℃
Switching capacity 5% (30 sec on / 9:30 off)	260VA / 11A / 24V @ 25℃
Switching capacity 10% (1 min on / 9 min off)	11A up, 3A down
Weight	1.9kg

LogicS-2-XXX-140VA

Switching capacity 10% (1 min on / 9 min off)	140VA / 6A / 24V @ 25℃
Switching capacity 5% (30 sec on / 9:30 off)	160VA / 7A / 22V @ 25℃
Switching capacity 10% (1 min on / 9 min off)	11A up, 3A down
Weight	1.4kg

Nameplate

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

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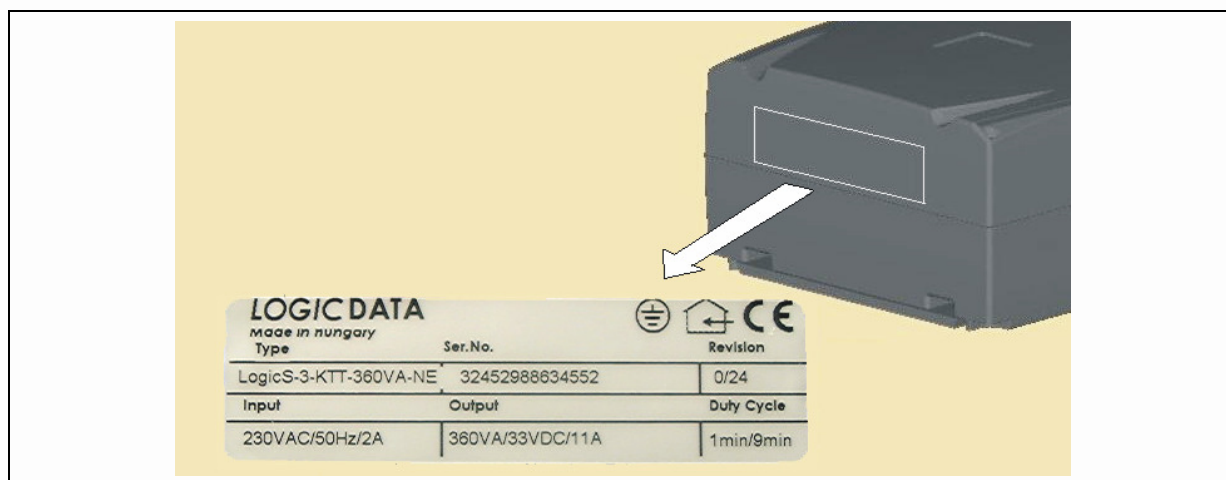

Fig. 11 – Nameplate

6. Appendix

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

- Possible faults and remedies
- Error messages on the handswitch display
- Optional products
- Drill template

6.1 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
Control unit is defective	Contact customer service
Handswitch is defective	Replace the handswitch
Drive is defective	Contact customer service

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

6.2 Error messages on the handswitch display

HOT

The display reads **HOT**.

Cause	Remedy
The LogicS 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. The LogicS control unit is then operational again.

E00

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

Cause	Remedy
There is an internal fault in the LogicS control unit.	Proceed as indicated in the following error list.

Code	Description	Remedy
00	No fault	
01	M1 relay is stuck	Switch the control unit off. Contact customer service.
02	M2 relay is stuck	
03	M3 relay is stuck	
04	M4 relay is stuck	
05	M5 relay is stuck	
06	M1 MOS FET is defective	Switch the control unit off. Contact customer service.
07	M2 MOS FET is defective	
08	M3 MOS FET is defective	
09	M4 MOS FET is defective	
10	M5 MOS FET is defective	
11	Short circuit in M1 motor socket	Unplug the control unit. Fix the external short circuit. Start the control unit again.
12	Short circuit in M2 motor socket	
13	Short circuit in M3 motor socket	
14	Short circuit in M4 motor socket	
15	Short circuit in M5 motor socket	
16	Plug detection in M1 motor socket	Plug a motor into the corresponding socket.
17	Plug detection in M2 motor socket	
18	Plug detection in M3 motor socket	
19	Plug detection in M4 motor socket	
20	Plug detection in M5 motor socket	

21	External oscillator has failed	Switch the control unit off. Contact customer service.

6.3 Optional products

The following optional products are available for LogicS control units.

Note: you can only use some of the LogicS control unit functions if the optional product is installed.

Pinch protection strip

The pinch protection strip is attached to the electric height-adjustable desk. If anything (e.g. leg, object) comes into contact with the strip while the desk is moving, the control unit will stop the desktop immediately and move it to a safe position with the drive back function.

Caution: the pinch protection strip is equipped with cable break monitoring. Do not therefore unplug the pinch protection strip during operation.

Caution: ensure that the pinch protection strip is always plugged into the appropriate socket on the control unit.

Handswitches

LOGICDATA supplies various handswitch models with different features. The following handswitches are compatible with the LogicS control unit family.

> **Note:** you will find detailed information on the **LOGICDATA** handswitches in a separate product catalogue.

HSX-OD-2-LD

Simple handswitch with movement function
- Rugged
- Cost effective
- Compact size

HSE-OD-2-LD

Inlay handswitch with movement function
- Easy to install
- No display
- Mounted on the desktop

HSE-MDF-2-LD

Inlay handswitch with movement function
- Easy to install
- Display
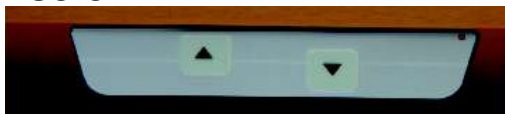- Mounted on the desktop

IRR-DSK-SET-LIGHT

Standard infrared remote control
- No cables
- Ergonomic housing
- 16 channels
- 2 motor groups
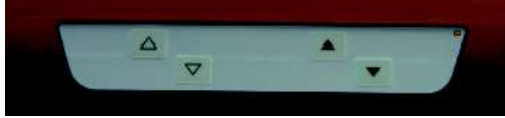- 6 memory positions

HSU-OD-2-LD

Simple handswitch with movement function
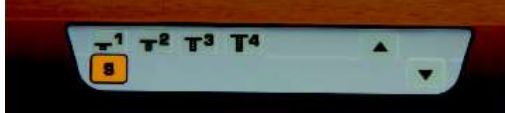- 2 keys
- Silver
- Soft touch keys

HSU-OD-4-LD

Simple handswitch for two motor groups
- 4 movement keys
- Silver
- Soft touch keys

HSU-OD-4M2-LD

Handswitch with memory functions and movement function
- 5 memory keys
- 2 movement keys
- Silver
- Soft touch keys

HSU-MDF-2-LD

Handswitch with display without memory function
- 2 movement keys
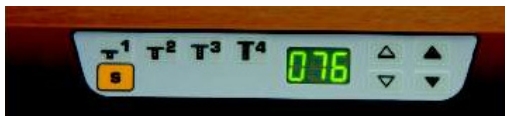- Display
- Silver
- Soft touch keys

HSU-MDF-4M2-LD

Handswitch with display and memory functions
- 5 memory keys
- 2 movement keys
- Display
- Silver
- Soft touch keys

HSU-MDF-4M4-LD

Handswitch with display and memory functions for two motor groups
- 5 memory keys
- 4 movement keys
- Display
- Silver
- Soft touch keys

HSM-OD-2-LD

- Competitive price
- Compact size
- Ergonomic design
- Soft touch keys
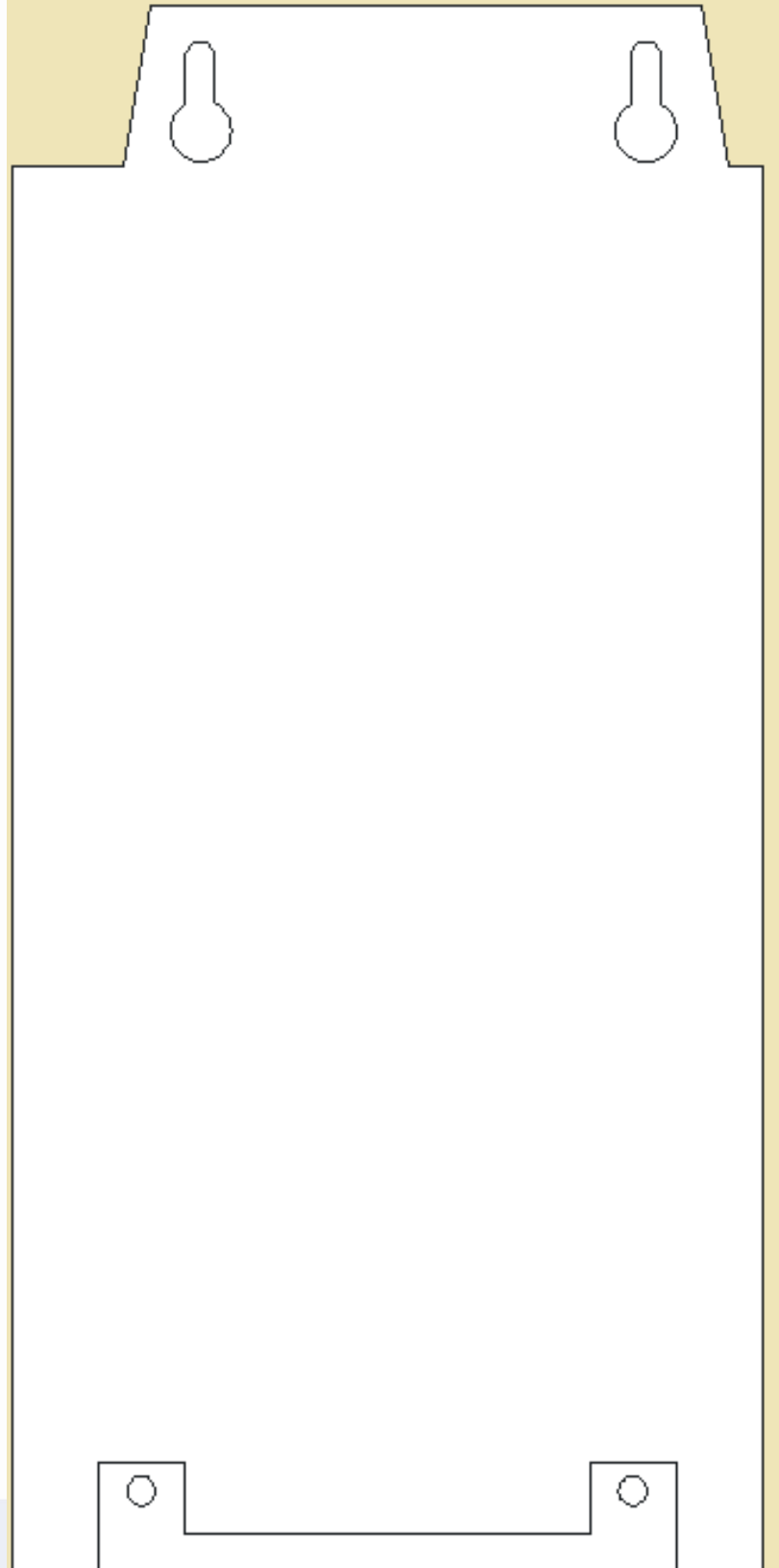
HSF-MDF-4M4-LD

- Flat design
- Display with status indicated
- Soft touch keys
- Mechanism slides the handswitch completely under the desktop
- Precision display to 1/10 inch or cm

6.4 Drill template

Cut out the drill template and mark the drill hotels on the desktop.

7. Further information

End of life disposal

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

(i)	**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 (pinch protection strip, drives, cables, etc.).

Manufacturer

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