SUSPA GmbH

Installation Instructions

English

SUSPA Varibase-SMS (Controller SmartNeo-3G)

Read installation instructions carefully before initial use!

Follow the safety instructions!

This partly completed machinery is intended to be incorporated into other machinery, other partly completed machinery/equipment or to be joined with another framework so as to form a complete machine as specified under the Machinery Directive. A conformity assessment procedure must be carried out on the whole completed machine in accordance with the Machinery Directive before it can be put into operation.

No revision service applies to this documentation. The current installation instructions are available at

https://www.SUSPA.com/global/downloads/

October 2025

These installation instructions are a component of the technical documentation of the system in accordance with the EC Machinery Directive.

These installation instructions correspond to the "Directive 2006/42/EC of the European Parliament and the Council for Adjustment of Legal and Administrative Regulations of Member States for Machinery" (Machinery Directive), Appendix I, Item 1.7.4.

These installation instructions are addressed to the person in charge, who must pass it on to the personnel responsible for connection, use, and maintenance of the machine. The person in charge must ensure that the installation instructions and the information contained in the accompanying documents have been read and understood.

These installation instructions must be kept in a well-known and easily accessible location and read in case of any doubt.

The manufacturer is not liable for injuries to people or animals, and damage to objects or to the machine itself arising from the improper/unauthorized use or by ignoring the safety criteria contained in these installation instructions or by modification of the machine or use of unsuitable spare parts.

Revision: October 2025

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1 Information Concerning this Document

1.1 Structure of the Warnings

The combination of a signal word in conjunction with a pictogram classifies the respective warning. The symbol can vary depending on the type of danger.

⚠ THE WARNING IS GIVEN BELOW A SIGNAL WORD THAT INDICATES THE EXTENT OF THE EXISTING DANGER.
The first line after the signal word describes the type and source of the potential danger. The following section describes the consequences if no measures are adopted to safeguard against the danger. The last paragraph describes the measures to avoid the danger.

1.2 Signal Words and Signal Colors

The following signal words are based on DIN EN 82079-1 and ANSI Z 535.4, and are used in this documentation. The safety colors have been adopted from the standard ISO 3864-1.

Signal word	Use	Explanation
⚠ DANGER	Warning	Indicates a dangerous situation, which if ignored, leads to death or severe injuries.
⚠ WARNING	Warning	Indicates a dangerous situation, which, if ignored may lead to injuries and damage to property
⚠ CAUTION	Warning	Indicates a dangerous situation, which, if ignored may lead to minor injuries and damage to property
IMPORTANT	Note	Refers to ways to facilitate and simplify operation and to cross-references. It excludes the danger of damage to property and the risk of injuries.
SAFETY INSTRUCTION	Safety instruction	Indicates certain safety-related instructions or procedures.

Table 1: Signal words and signal colors

1.3 Symbols and Warning Notice

Some of the following special safety symbols according to DIN EN ISO 7010: 2011 are used in the corresponding sections of these installation instructions and require particular attention depending on the signal word and symbol combination:

Symbol	Use	Explanation
	Note	Important information for understanding the device or for optimized operations.

Table 2: Symbols

Symbol	Explanation	Symbol	Explanation
	General warning sign		Warning against hazardous electrical voltage
	Warning against risk of hand injuries		

Table 3: Warning

2 Identification and Notes

2.1 Designation

SUSPA Varibase-SMS (EU-Version)

Consisting of:

- 004 10569 Lifting Column VB-SMS-BTU-1073-420-Q-W2 **or**
- 004 10570 Lifting Column VB-SMS-BTU-1073-420-Q-S

- Sheet 1981018 Controller SmartNeo 3G incl. power supply cable

- 098 10243 Manual Switch Up/Down HSM-B **or**
- 098 10244 Manual Switch CBI Paddle-B **or**
- 098 10249 Manual Switch Memory HSU-C

2.2 Manufacturer

SUSPA GmbH

Eisenhaemmerstrasse 3

92237 Sulzbach-Rosenberg

GERMANY

2.3 Intended Use

The SUSPA Varibase-SMS (Spindle Motor System) is used to adjust the height of workplaces that are used when sitting or standing. The lifting elements are designed for compressive loads.

A sit-stand workstation is a workplace where employees can alternate between sitting and standing. The height-adjustable work surface can therefore be adapted to the individual's height and posture, thus reducing ergonomic strain on the employees.

IMPORTANT Please make sure that before installation or start-up or the appropriate height adjustment has been selected. Please note in this regard the technical data (see Sec. 4.1 Technical Specifications), in particular the maximum load and adjustment range information.

Any expanded use of the Height Adjustment System is considered to be usage not in the manner intended and thus improper. In this case, the safety and protective functions of the Height Adjustment System may be impaired.

This partly completed machinery is intended to be incorporated into other machinery, other partly completed machinery/equipment or to be joined with another framework to form a complete machine as specified under the Machinery Directive. A conformity assessment procedure must be carried out on the whole completed machine in accordance with the Machinery Directive before it can be put into operation.

SUSPA GMBH assumes no liability for damage resulting from such improper use.

Intended use also includes:

- Following all instructions in the installation instructions
- Following all safety instructions
- Compliance with the maintenance intervals

2.4 Reasonably Foreseeable Misuse

Improper use, which could result in risks for the user, third parties and the Height Adjustment System for all operating modes are considered to be the following:

- Using the Height Adjustment System and its electrical equipment contrary to its intended use
- The installation of the Height Adjustment System on components that are not approved by SUSPA GmbH for this system
- Improper installation, start-up, operation and maintenance of the system
- Operating the system beyond the physical operating limits described in the Section "Operating Conditions"
- Modifying the controller software without prior consultation with SUSPA GmbH
- Any modifications to the height adjustment system as well as any add-ons or conversions without prior consultation with the company, SUSPA GmbH
- Operating the Height Adjustment System contrary to the specifications provided in the operating instructions regarding safety instructions, installation, operation, and malfunctions
- Operation of the Height Adjustment System with apparent malfunctions and/or defects

⚠ WARNING

Danger of injury due to impermissible changes

Unauthorized modifications to the component as well as the use of spare parts from other manufacturers (not original spare parts) may pose risks.

Do not allow any unauthorized or other modifications to the component without prior approval of SUSPA GMBH.

NOTE This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge unless they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children must not play with the appliance. Cleaning and user maintenance must not be carried out by children without supervision.

2.5 General Information

2.5.1 Warranty and Liability

The "General Terms and Conditions" of SUSPA GmbH always apply. These are made available to the owner upon signing of the contract at the latest.

Warranty claims and liability claims for personal injury and material damage are excluded if they are attributed to one or more of the following causes:

- Improper use of the component
- Improper installation, start-up, operation and maintenance of the component
- Disregarding the information in the installation instructions
- Unauthorized structural modifications of the Height Adjustment System
- Opening the individual components
- Inadequate implementation of the prescribed maintenance operations
- Disasters caused by external influence or force majeure
- Repairs that have not been carried out by the manufacturer's specialists

Read the installation instructions carefully before using and putting the component into operation. The installation instructions should familiarize the user with the handling of the component and instruct the user in the details associated with function and maintenance. The installation instructions must be always made accessible to personnel and must be kept available near the Height Adjustment System. The notes provided in the installation instructions regarding maintenance and operational safety must be observed and complied with. SUSPA GmbH would be pleased to answer any questions extending beyond the scope of these installation instructions.

2.5.2 Objectives of the installation Instructions

These installation instructions serve as a support and contain all necessary instructions that must be observed and complied with for general safety, transport, installation, operation, setup, maintenance, storage and disposal.

These installation instructions with all safety instructions as well as all additional documents of the assemblies provided by external suppliers must be:

- Observed, read and understood by all persons working on the Height Adjustment System; this applies in particular to the safety instructions
- Must be made freely available to all persons
- Consulted even in case of slightest doubt (safety)

Objectives:

- To prevent accidents
- Increase the service life and reliability of the component
- To reduce the costs of production downtime

IMPORTANT The right to technical modifications in the context of continuous product improvement is always reserved without prior notification!

2.5.3 Target Audience of the Installation Instructions

At different life cycles of the Height Adjustment System, personnel with varied competences may encounter the Height Adjustment System.

Tasks	Operating personnel	Specialized personnel	Maintenance personnel	SUSPA GMBH	Private person
Shipping (Delivery)				X	
Transport (Dispatching)		X		X	X
Start-up / installation		X	X	X	X
Operation	X	X	X	X	X
Error diagnosis	X	X	X	X	X
Troubleshooting by Error Code	X	X	X	X	X
Repair			X	X	
Decommissioning / Dismantling		X	X	X	X

Table 4: Target group

Operating personnel

A person who has been instructed and, if required, trained by a specialist in the tasks assigned to them, the possible dangers of improper conduct and the required safety equipment and safety measures.

Qualification of operating personnel

Of course, only those persons may work with the Height Adjustment System

- who are at least 18 years of age
- who are physically and mentally suitable for this purpose

Outside of the Federal Republic of Germany, the appropriate accident prevention regulations and safety regulations of the respective country apply.

Specialists

Persons who can evaluate the work assigned to them and recognize possible dangers on the basis of their specialized training, knowledge, experience and familiarity with the relevant standards.

Maintenance personnel

Maintenance personnel are persons with adequate technical training, knowledge and experience who are familiar with and know how to avoid mechanically or electrically induced hazards. Maintenance personnel must meet the following requirements:

- Technical training
- Knowledge and experience
- Knowledge of applicable standards
- Ability to assess assigned works
- Ability to identify hazards

External professional personnel (SUSPA GmbH)

The external professional personnel are specially trained for the manufacturer's products and are familiar with every life stage of the Height Adjustment System. The external professional personnel conduct the transport up to the transfer to the operator.

Private person

A person who has no previous knowledge in the installation of mechanical and electrical components.

3 Safety Notices

⚠ WARNING

Danger of injury and material damage

There are dangers posed by ignoring the installation instructions and all safety instructions provided therein.

Read the installation instructions carefully before the initial start-up. Fulfill and follow the safety conditions required. Observe and follow both the general safety instructions and also the special safety instructions provided in the other chapters.

The component has been constructed using state-of-the-art technology and in line with established safety regulations. In order to prevent danger to life and limb of the user, third parties, or to the component, use the component only for intended purpose and in perfect operating condition in terms of safety.

The operator of the component or the persons assigned by the same are liable for property damage and personal injury resulting from non-compliance with the instructions provided in the installation instructions.

3.1 Obligations

⚠ WARNING

Danger of injury by disregarding the safety symbols

There is risk of injury associated with disregarding the warning notices provided in the area of the component and in the installation instructions.

Please note all warning and safety instructions in these installation instructions.

The following circumstances could increase the hazard potential of the component:

- Danger posed to persons through mechanical influences
- Malfunctions that may impair the safety during operation of the component

3.1.1 Operating Company's Obligations

This partly completed machinery is only intended to be incorporated into other machinery or other partly completed machinery or equipment or to be joined with them so as to form a complete machine as specified under the Machinery Directive. The machine should be put into operation only after a conformity evaluation procedure in accordance with the Machinery Directive has been carried out for the complete machine.

3.2 Residual Risk

IMPORTANT There is a residual risk posed by inadvertent movement of the drives. The following are determined as potential causes for this:

- Damaged cables
- External influences (EMC)
- Defects on the lifting elements, the controller or on the manual switch

➲ Take the residual risk into consideration with the construction and while preparing the operating instructions for the final product.

3.3 Safety Equipment

The component is fitted with various safety equipment. This equipment serves to protect persons working on the component from any danger to life and limb arising from electrical and mechanical operations and to limit material damage to the component.

3.4 Additional Instructions

In principle, the provisions of the accident prevention regulations of the professional association also apply to all work on the Height Adjustment System.

In addition, observe and follow the

- Applicable and binding accident-prevention regulations
- Applicable and binding regulations at the place of use
- Recognized technical regulations for safe and professional working methods
- Existing Environmental Protection Regulations
- Other applicable regulations

4 Design and Function

4.1 Technical Specifications

Technical specifications - Height Adjustment System	
Installation dimensions (Lifting element)	
Tubing profiles:	□ 70 / □ 65 mm
Stroke (L_{Stroke}):	420 mm
Retracted length L_{in}:	653 mm
Extended length L_{out}:	1073 mm
Lifting element Protection class III:	Safety Extra-Low Voltage (SELV)
Controller	
Input voltage:	230 V (220V-240V) / 50/60Hz (2,5A)
Output rating:	Max. Output power 240W / 30V
Standby use:	< 100 mW
Protection class II:	Protective insulation
Performance data	
Operating speed:	ca. 30 mm/s
Max. lifting capacity and holding load per lifting element:	60 kg
Recommended Duty cycle:	10% (Operating time 1 min; Break time 9 min) or (Operating time 2 min; Break time 18 min)
Protection type	
Lifting elements:	IP 20 in accordance with DIN EN 60529
Controller:	IP 20 in accordance with DIN EN 60529
Manual switch:	IP 20 in accordance with DIN EN 60529
Operating cycles	
At least 5,000 cycles in compliance with maintenance	

Table 5: Technical Specifications

IMPORTANT The noise emission level of the height adjustment system is considerably less than 70 dBA.

4.2 Design and Function of the Height Adjustment System

The lifting elements are driven by integrated electric motor and operated by a controller. The system works purely electromechanically and without the use of hydraulics.

The lifting elements are optimized for OEM or retrofit applications and consist of three important subsystems:

- Electrical lifting element
- Electrical controller
- Manual switch

The following explains how the subsystems work together and make the raising and lowering of the Height Adjustment System possible.

Figure 1: Electrical controller SmartNeo 3G

Figure 3: UP/Down manual switch HSM-B

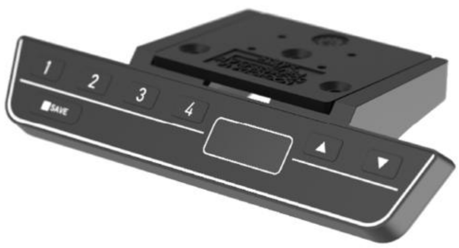


Figure 4: Memory manual switch HSU-C (optional)

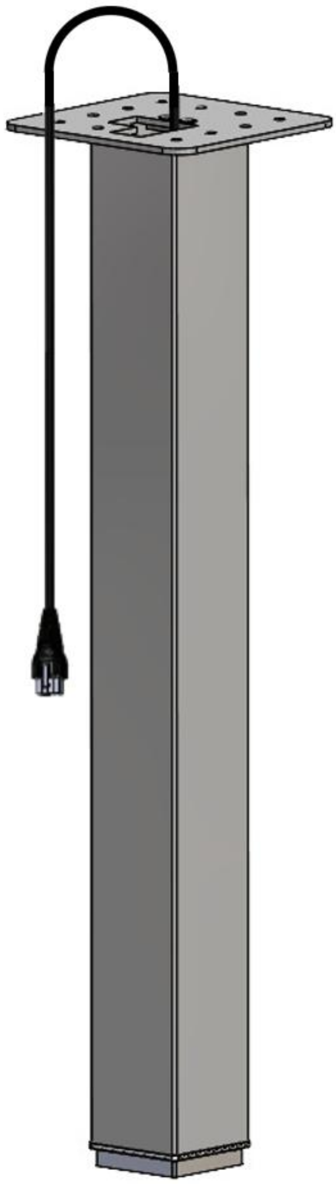


Figure 2: Electrical lifting element

The lifting elements are equipped with electro-mechanical drives. The controller converts AC power to 32VDC power to operate the motors with pulse width modulation. The controller is used to activate the raising and lowering of the lifting elements of the Height Adjustment System.

As soon as the user presses the arrow keys (up or down) of the connected manual switch, the controller receives the signal to set the electro-mechanical drive of the lifting elements in motion. Depending on the direction of the arrow the motor moves the lifting elements up or down.

5 Transport

5.1 Safety Instructions for Transportation

⚠ WARNING

Danger of falling loads

There are risks caused by human misconduct and inadequately secured loads.

Allow only those individuals who have been specially trained to perform transportation work. Secure the load against changing its position.

Pay attention to the position of the center of gravity of the component during transportation.

Secure the component for transport by heavy goods vehicle on the loading surfaces with suitable means.

⚠ WARNING

Danger of injury due to unsecured transport routes

There is the risk of stumbling or slipping while transporting the components.

Arrange for proper illumination of the routes, ramps and steps over which loads are moved. Remove obstacles and stumbling points.

⚠ CAUTION

Damage caused by improper transport

Transportation with extended lifting elements may result in risk of damage to property or personal injury.
Retract the lifting element completely when transporting.

5.2 Transportation Procedure

The components must be moved by suitable means. Use suitable cables, chains or straps for loading and unloading according to the load / weight.

IMPORTANT The shipment must be made by professional personnel of SUSPA GmbH. Further transport must be made by professional personnel and private persons. The following points must be observed for transporting / unloading of the components:

- Note the center of gravity.
- Avoid rubbing cables and lifting straps against sharp edges and corners.
- Check the delivered components for completeness, damage or any other abnormalities.
- Observe the applicable safety and accident prevention regulations during transport.

6 Installation

⚠ CAUTION

Danger of Crushing

There is a risk of crushing due to the short distance to other objects and structures.

Make sure that the workstation has a minimum distance of 50 mm from other objects or structures. Make sure that walls, furniture, electrical wiring, or other solid structures do not impede the movement of the workstation during operation.

IMPORTANT The installation of the component must be carried out by professional personnel of SUSPA GmbH, other professional personnel, maintenance personnel and private persons.

IMPORTANT Do not lift the Height Adjustment System on the motor cables or power cords. Keep the motor cable and power cable away from heat, sharp edges, and moisture. Immediately suspend the operation of the product if you notice that the motor cable or power cord are damaged and replace the damaged components without delay. Never attempt to repair damaged motor cables or power cords.

IMPORTANT Check all components for any damage that may have occurred during transportation or installation before operating the system. Do not try to dismantle the system or system components. Contact SUSPA GMBH if the components must be repaired or replaced.

6.1 Unpacking

Proceed with the necessary diligence and caution when unpacking the system components. Do not use any sharp-edged objects, cutters or knife blades to prevent damage to near electrical cables or components that may get damaged easily.

6.1.1 Disposal of Transport and Warehouse Packaging

The disposal of the transport and warehouse packaging should be performed in accordance with the local disposal regulations and environmental protection laws applicable in the operator's country.

6.1.2 Checklist of All Components Included in the Delivery

Check the completeness of the delivery while unpacking the components. Use the appropriate delivery notes on the contents of the pallets and the manufacturer's packing list for this purpose.

Examples of scope of delivery would be:

For a 1-leg system:

- 1 x Electrical lifting elements
- 1 x Electrical controller
- 1 x Power cable
- 1 x Manual switch

6.2 Operating conditions

Physical operating conditions	
Operating range:	Functional operation ▪ Min + 5 °C ▪ Max + 40 °C Relatively humid: ▪ Max 68% (non-condensing) Up to an altitude of 2,000 m
Contamination:	No heavy contamination due to dust, acids, corrosive gases

Table 6: Operating conditions

- ➲ Do not operate the system outdoors. Do not expose the system to damp or wet conditions.
- ➲ Avoid environments with chemical agents or corrosive environments.
- ➲ Do not operate the system near flammable solvents, propellants and/or explosive substances (e.g. gas, vapor, dust, etc.).
- ➲ Do not expose the components of the Height Adjustment System to any vibrations and/or shock loads.
- ➲ Do not use the controller near the equipment that generates strong electromagnetic fields. This may impair the function.
- ➲ In order to prevent overheating in the controller, it should not be installed in constrained, non-ventilated or thermally insulating locations. Adequate air circulation must be ensured.

IMPORTANT Observe the country-specific regulations regarding setting up and operation of work-stations with respect to lighting of the workstations.

For example: Lighting in accordance with ASR A3.4

The Technical Rules for Workstations (ASR) reflect the state-of-the-art technology, occupational medicine and occupational hygiene and other sound knowledge for the setup and operation of workstations.

The values given in the table are the intensity of illumination on the reference area for visual tasks that may be horizontal, vertical or inclined.

Lighting requirements (metal machining and processing, foundries and casting)		
Working rooms, workstations and jobs	**Minimum value of illumination intensity In lx**	**Minimum value of the color rendering Index Ra**
Metal machining and processing, foundries and casting		
Assembly work:		
- Rough	200	80
- Medium-fine	300	80
- Fine	500	80
- Very fine	750	80

Table 7: Lighting requirements

6.3 Install Components

- Note the exact information of the installation dimensions provided in the schematic diagrams of the Height Adjustment System.

6.3.1 Installation in General

⚠ CAUTION Electrical components (lifting elements, electrical controllers, manual switches) should be connected or disconnected only with the power plug pulled out!

- Bring the lifting elements in such a manner at the workstation, that the load on the system is balanced out (distributed uniformly). Ensure that the load is centrically applied at the lifting column and thus avoid side forces on the system. The maximum possible load per lifting element must not be exceeded.
- Keep electrical cord away from sharp edges and moving parts.
- Avoid contact with moisture and heat.
- Attach the electrical wires and power cords to the workstation or structure using cable ties or clips.

IMPORTANT When routing electrical cables and power cords, make sure that the wires are not stretched or crushed. Position the power cord to prevent tripping hazards. Use only accessories authorized and provided by SUSPA GmbH.

The height adjustment system works properly only if it has been put into operation properly and individual components are controlled correctly.

- First check whether the individual components are damaged. If this is the case, do not put the height adjustment system into operation, but have the damaged components replaced by your supplier.
- Also check the power cable for damage. Make sure to replace damaged power cables in any case.

6.3.2 Installing the Lifting Elements

➲ Remove the protective packaging in which the lifting element is packed.

Figure 5: Unpacking

➲ Connection of the lifting element to the base plate or the cross base:

When selecting the customer supplier base plate or cross base, sufficient stability and rigidity must be ensured. For mounting the customer-side base plate or cross base, 4x M6 threaded holes (thread hole spacing □ 42 ± 0.3 mm, thread depth 4 mm) are provided on the inner tube of the lifting element. This allows the base plate or cross base to be attached to the lifting element using 4x suitable M6 fastening screws of sufficient strength. The 4x M6 fastening screws depend on the customer's base plate or cross base and therefore not included.

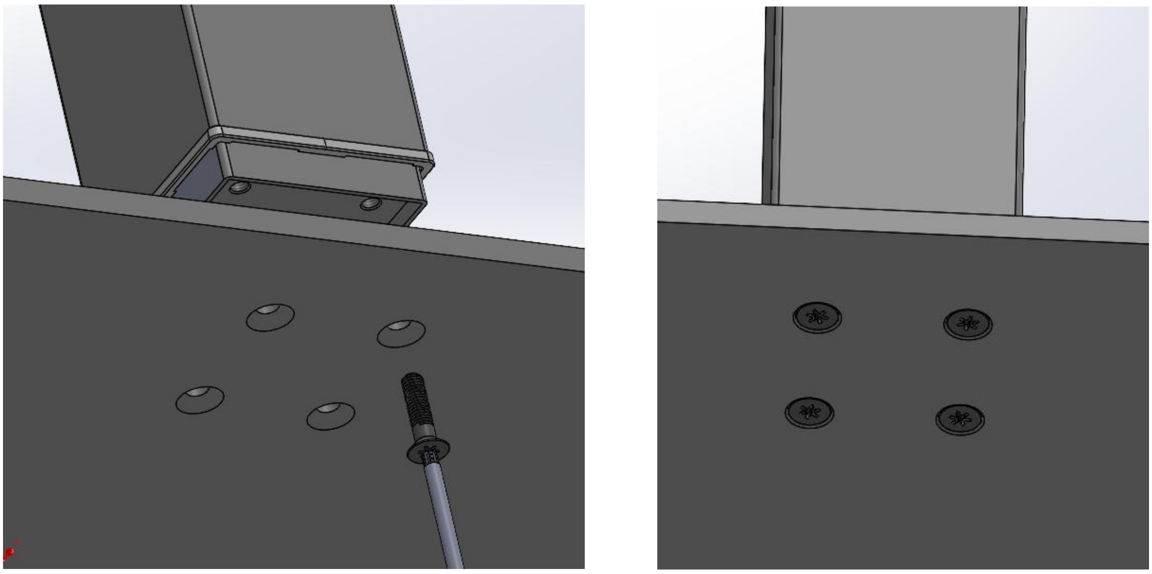


Figure 6: Mounting lifting element on the base plate

➲ Connection of the lifting element to the table top:

When selecting the customer supplier table top, sufficient stability and rigidity must be ensured. For mounting the customer supplier table top on the lifting element are provided numerous holes Ø6.5 mm (hole distance 32 mm, flange thickness 4 mm) onto connection flange.

This allows to mount the tabletop to the lifting element by using suitable fastening screws with sufficient strength. The fastening screws Ø6 are dependant on the customer's tabletop and are therefore not included. The lifting element should be mounted to the tabletop using at least four fastening screws.

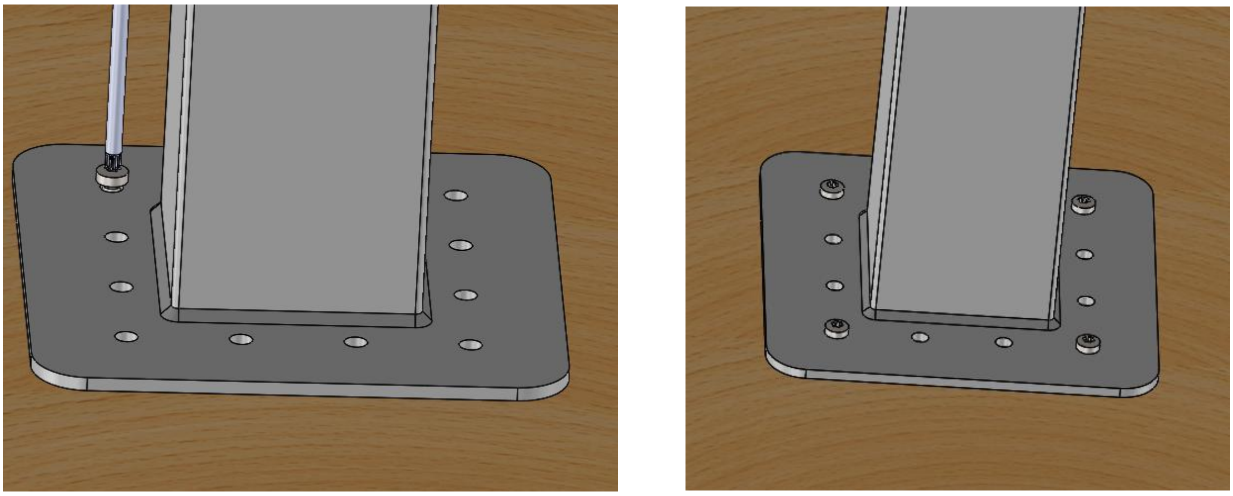
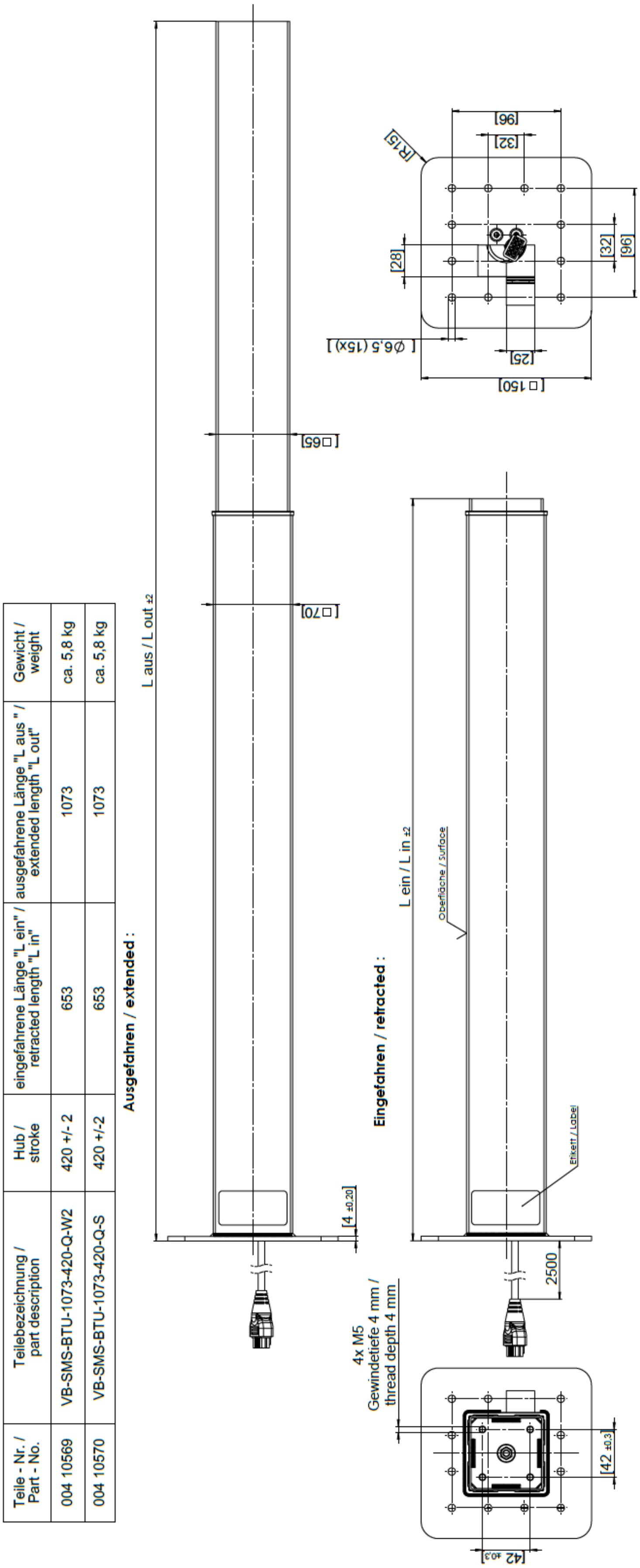


Figure 7: Mounting lifting element on the table top

➲ Check the fastening screws of the base plate or cross base and the table top to ensure they are securely attached to the lifting element. Ensure that the customer-side fastening screws are tightened to the specified tightening torques.

➲ Make sure that the electrical lines of each leg of the workstation can be laid without putting them under tension by maintaining the permissible bending radius of 57 mm (single) and 86 mm (multiple). The electrical wires to the lifting elements are each 2.5 m long.

IMPORTANT Take care to ensure that the workstation is not put down too abruptly in order to avoid damaging the lifting elements.



Teile - Nr. / Part - No.	Teilebezeichnung / part description	Hub / stroke	eingefahrene Länge "L ein" / retracted length "L in"	ausgefahrene Länge "L aus" / extended length "L out"	Gewicht / weight
004 10569	VB-SMS-BTU-1073-420-Q-W2	420 +/- 2	653	1073	ca. 5,8 kg
004 10570	VB-SMS-BTU-1073-420-Q-S	420 +/-2	653	1073	ca. 5,8 kg

Figure 8: Dimensions of the lifting element

6.3.3 Installing the Electrical Controller

IMPORTANT Ensure sufficient cable length for the lifting elements when positioning the electrical controller. The mounting material needed for this is individual and not included.

- Mount the electrical controller with two suitable screws to the worktop.
- When attaching, insert metal washers between the screws and the electrical controller to prevent damage at the connecting points of controller plastic housing.
- Do not mount / operate the controller:
  - above or in front of heat sources (e.g. radiators),
  - at locations exposed to direct incidence of sunlight,
  - at or near easily inflammable materials or
  - near high-frequency equipment (e.g. transmitters, radiation equipment or similar devices).
- Make sure that connecting cables do not have kinks or are not exposed to mechanical stress.

For protection against over-voltage that may occur during thunderstorms, it is recommended that you install over-voltage protection. Get advice from an electrical installation engineer.

IMPORTANT Observe and follow the aspects given below during installation:

- Select a centralized installation location. Empirical values have demonstrated that this offers the easiest option for cabling.
- Fix the controller(s) tightly with screws (Figure 9). In this way, you avoid malfunctions caused by loose plug-in connections or undesirable noise development.
- During installation, make sure that the controller(s) is freely accessible even after installation. This enables ease of working in case you need to do service work.
- Ensure that there is adequate air circulation during installation. There is, in fact, little heat developed by the controller, but nonetheless, it exists.

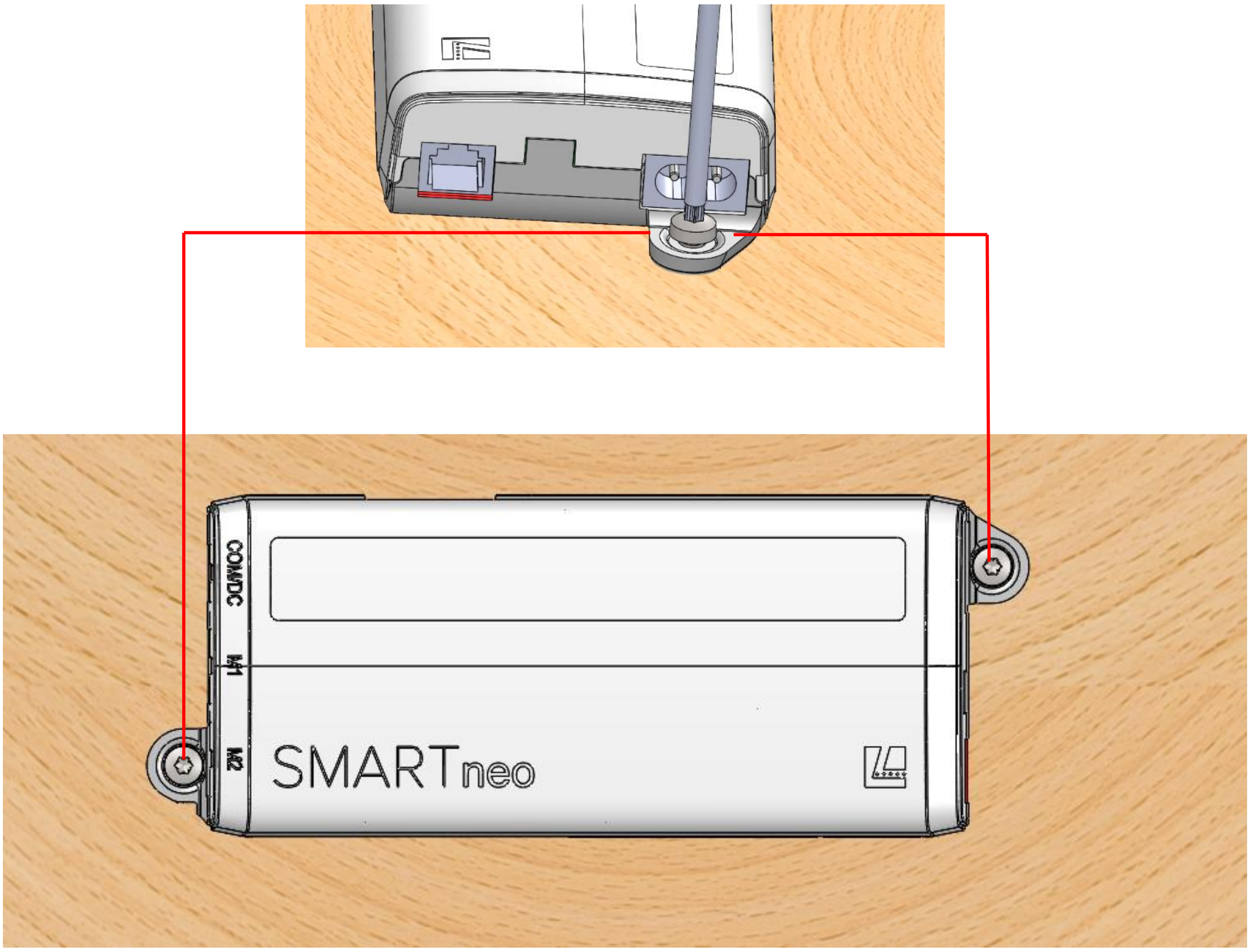


Figure 9: Mounting the electrical controller (2 screw connections)

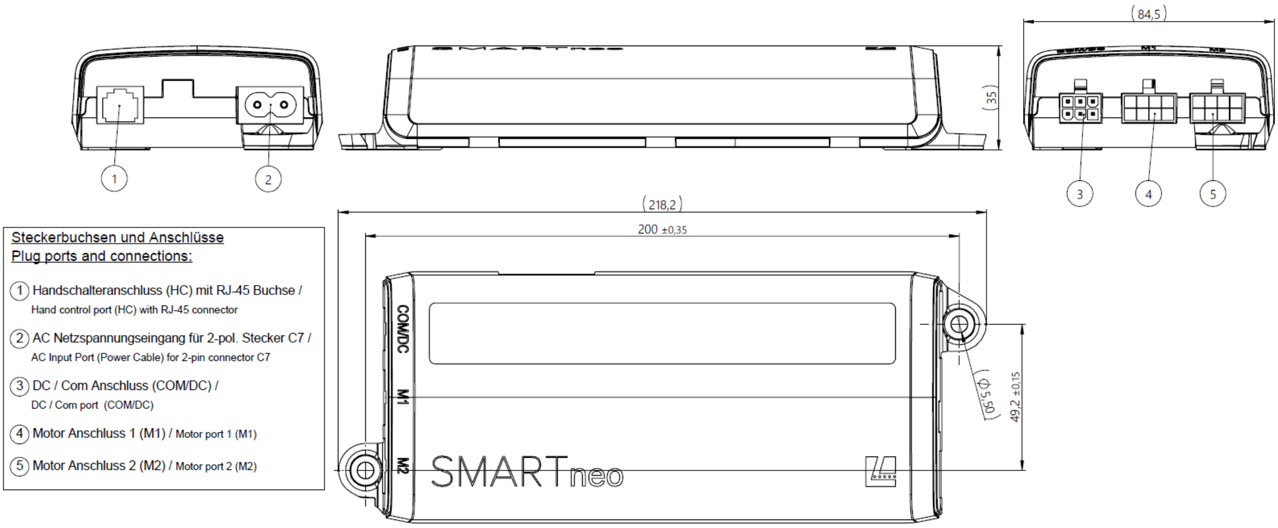
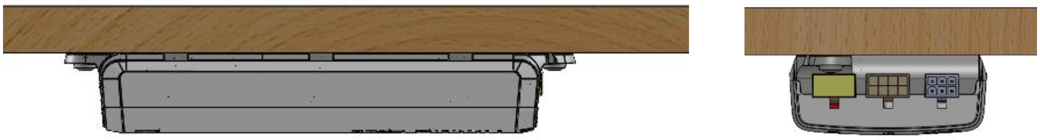


Figure 10: Electrical controller dimensions - connections

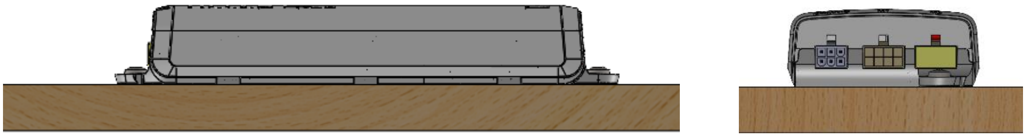
6.3.3.1 Installing the Standard Controller SMS LTC384 (without Tilt Sensor)

The standard Varibase-SMS controller SmartNeo 3G can be fixed in a wide variety of positions and directions on the table system:

Under the table top:



On the table top:



Perpendicular to the tabletop:

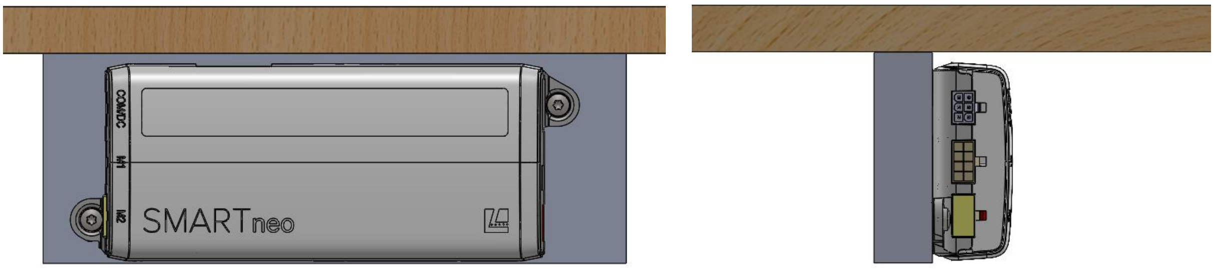


Figure 11: Positioning of standard controller SmartNeo 3G

6.3.4 Installing the Manual Switch

- ➲ Fasten the manual switch to an appropriate position below the work surfaces.

IMPORTANT Ensure sufficient cable length for the electrical controller when positioning the manual switch.

- ➲ Mount the Up/Down manual switch HSM-B with two screws to the worktop.
- ➲ When attaching, insert metal washers between the screws and the manual switch to prevent damage to the plastic housing.

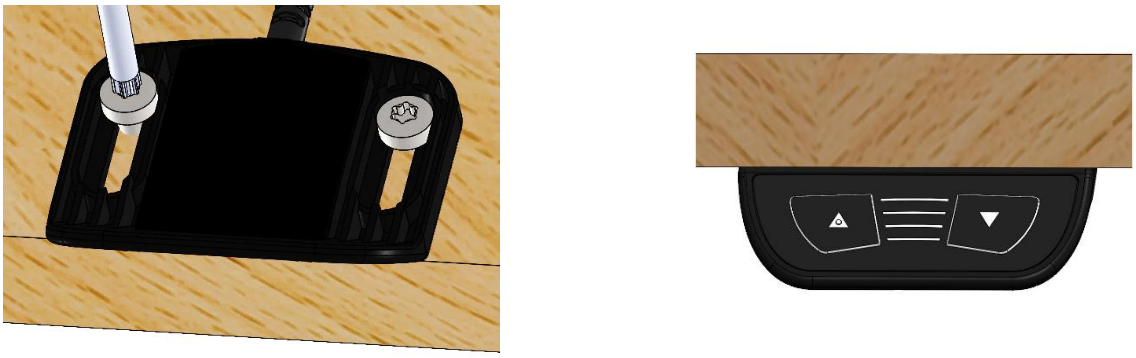


Figure 12: Attaching the Up/Down manual switch HSM-B

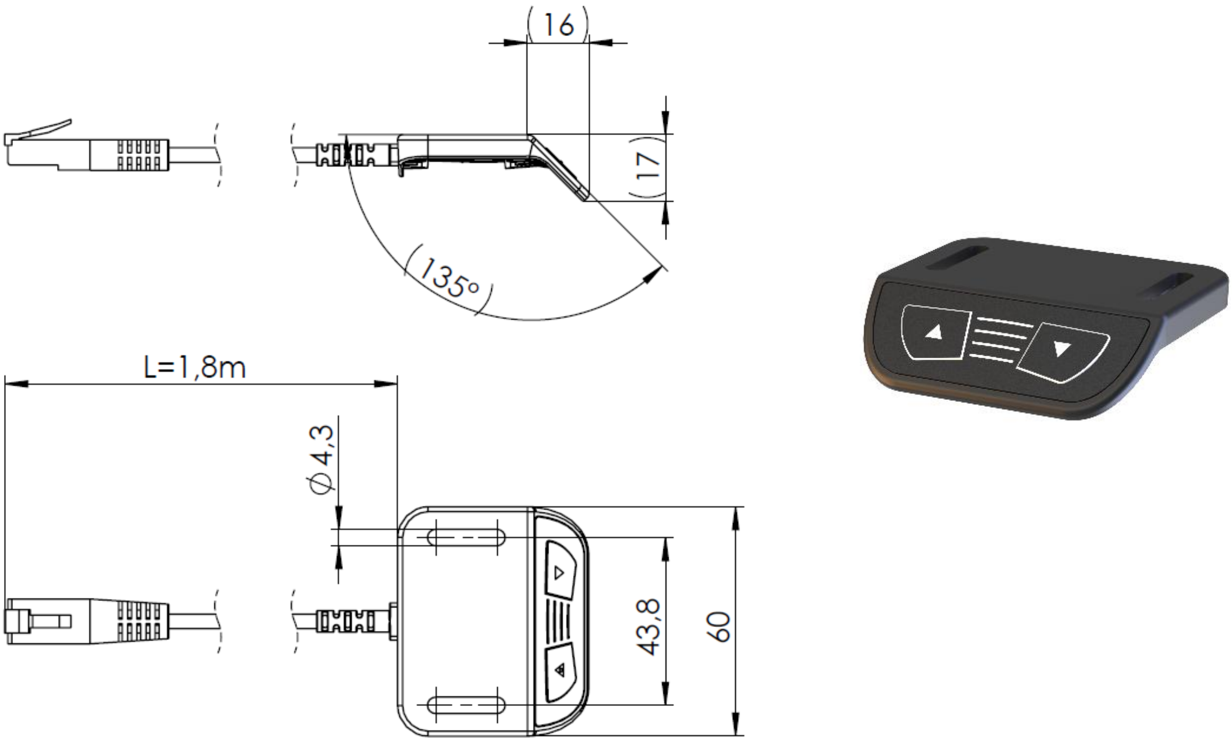


Figure 13: Dimensions of the Up/Down manual switch HSM-B

➲ Mount the Memory manual switch HSU-C with three screws to the worktop.

➲ When installing the memory manual switch HSU-C, ensure that the included sliding plate can be mounted between the tabletop and the handset. This sliding plate allows the manual switch to be moved a total of 13 mm from the tabletop edge.

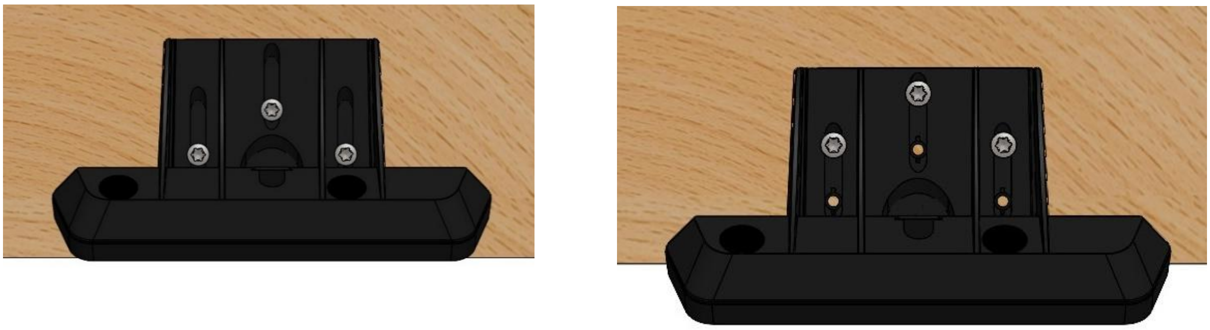


Figure 14: Attaching of the memory manual switch HSU-C

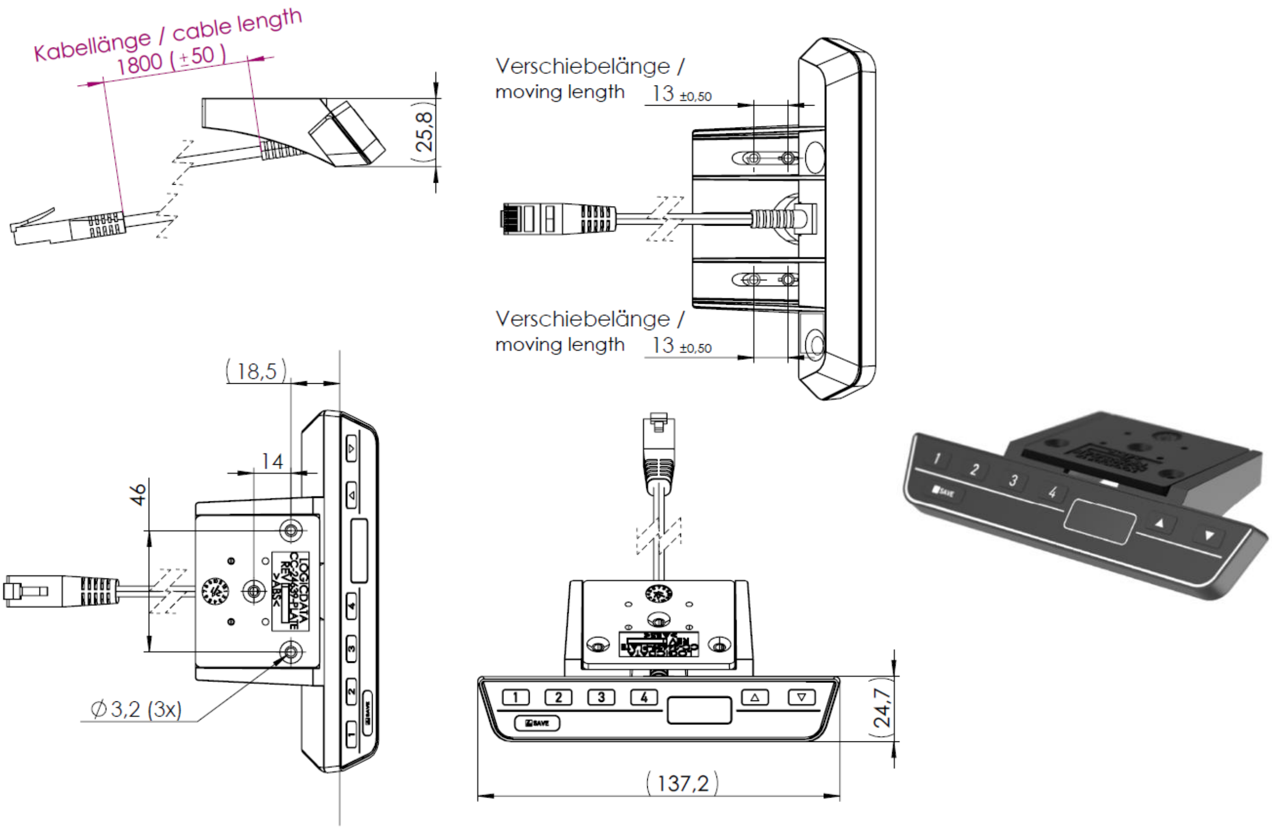
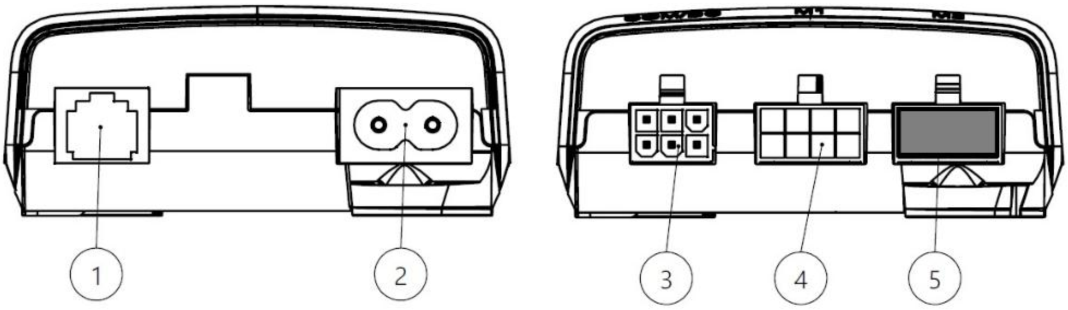


Figure 15: Dimensions of the memory manual switch HSU-C

6.3.5 Overall Installation



<u>Steckerbuchsen und Anschlüsse / Plug ports and connections:</u>

1 Handschalteranschluss (HC) mit RJ-45 Buchse /
Hand control port (HC) with RJ-45 connector

2 AC Netzspannungseingang für 2-pol. Stecker C7 /
AC Input Port (Power Cable) for 2-pin connector C7

3 DC / Com Anschluss (COM/DC) /
DC / Com port (COM/DC)

4 Motor Anschluss 1 (M1) / Motor port 1 (M1)

5 nicht kontaktiert / not connected

Figure 16: Connections of the electrical controller

- ➲ Connect the plug of the lifting elements with electrical controller (Figure 16; connection No. 4)
- ➲ Connect the plug of the manual switch to the electrical controller using the appropriate input (Figure 16; connection No. 1)
- ➲ Connect the power cable to the appropriate input of the electrical controller Figure 16; connection No. 2)

IMPORTANT The SUSPA Varibase-SMS system can be supplied in different variants. There is a different controller variant depending on the supply variant. The correct variant of the controller can be supplied only if you specify the supply variant at the time of placing the order.

6.3.6 Laying of Electric Wires and Cables

- When laying the cables, make sure that
  - they cannot get jammed or pinched
  - they are not subjected to mechanical loads or stresses (tension, pressure or bending etc.)
  - they cannot be damaged in any other way

- Fasten the cables with adequate strain relief and adequate protection against kinks.
- Wind the excess length of cables together in rolls with a diameter of approx. 150 mm and fasten them with the fastening clamps and/or cable ties to the workstation.
- Use caution so as not to damage the wires.
- Check the electrical lines and cables to ensure that they are fastened securely to the workstation and have not been damaged during the operation.

Figure 17: Coiling of electric wires and cables

6.4 Space Requirements

For detailed information on space requirements refer to the Section 4.1 “Technical specifications”.

7 Operation

7.1 Warning Notices for Operation

⚠ WARNING

Crushing or amputation risk due to moving parts

There are risks posed by removing components of the protective housing.

Do not operate the Height Adjustment System if the protective housing of the components has been removed.

IMPORTANT Do not allow the electrical Height Adjustment System to be operated by children. If the device is used near children, ensure supervision by adults.

7.2 Tests Prior to Switching the Machine On

- Check all electrical and mechanical connections.
- Check whether there is damage to electrical wires which may have occurred during un-packing or installing of the system.
- Check all system components in order to ensure that they are fastened securely to the worktop.
- Make sure that the maximum load is not exceeded. The maximum load is the entire load including the raised worktop and all objects that are located on the worktop.
- Connect the workstation to the power supply only after checking the above-mentioned aspects.
- Allow the controller to adjust to the change from cold to hot environments for a few hours before putting them into operation, otherwise condensed water may damage them.

7.3 Duty Cycle

The duty cycle refers to the time period in which a motor or system is in motion, compared with the rest period.

The Height Adjustment System is not designed for continuous operation without rest periods. It is designed for intermittent use and has a maximum 10% duty cycle. This means that after 1 or 2 minutes of operation, the Height Adjustment System must rest for at least 9 or 18 minutes before it could be used again. It should be noted that the maximum period of continuous operation is two minutes. The limited duty cycle of 10% is stored as a security measure in the electrical controller system.

⚠ CAUTION

Danger posed by thermal energies

The motor housing may become hot if the operating time exceeds the duty cycle.

The maximum energy absorption of the lifting elements and the controller must not be exceeded in order not to damage the system. Exceeding the maximum energy absorption on a regular basis can lead to system malfunction or damage to the lifting element motor(s) and/or electrical controller. Moreover, this could also result in the premature wear of single components, thereby reducing the lifetime of the Height Adjustment System.

Ensure adequate ventilation to ensure sufficient heat dissipation from the components of the Height Adjustment System and do not exceed the duty cycle.

7.4 Manual Switch

All functions of the Height Adjustment System can be controlled using the manual switch.

Figure 18: Up /Down manual switch HSM-B

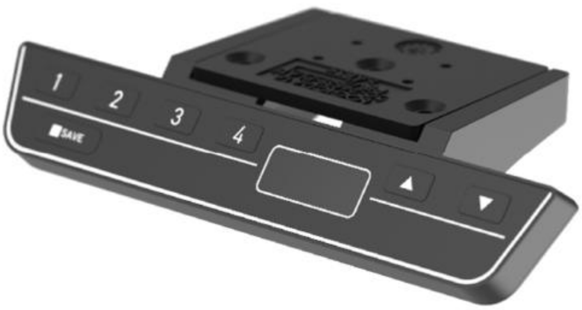


Figure 19: Memory manual switch HSU-C (optional)

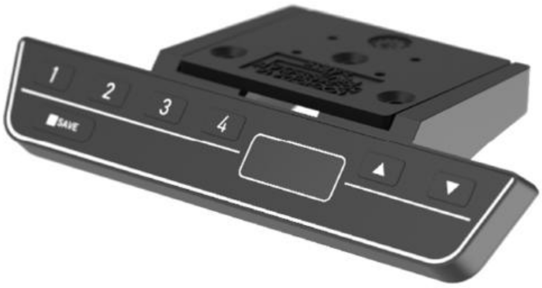
7.4.1 Function of the Manual Switch

7.4.1.1 Up / Down Manual Switch HSM-B

Symbol	Function
▲	Up: Press the "Up" ▲ button until the workstation has reached the desired height or the maximum height.
▼	Down: Press the “Down” ▼ button until the workstation has reached the desired height or the minimum height.
▼ Hold for 5 seconds	Reset: • Press the “Down” ▼ button and keep it pressed. • After approx. 5 seconds the controller is in the reference mode if you continue to press the direction button. While “Down” button is still being pressed, the workstation moves slowly to the lower mechanical end stop. • After a successful reset, the lifting column moves to its programmed lowest position and the controller clicks 2x • Now the workstation can be moved by using the two direction buttons on the manual switch.

Table 8: Function of the Up /Down manual switch HSM-B

7.4.1.2 Memory Manual Switch LD6LC (optional)



Symbol	Function
	Up: Press the "Up" button until the workstation has reached the desired height or the maximum height.
	Down: Press the “Down” button until the workstation has reached the desired height or the minimum height.
Hold for 5 seconds	Reset: • Press the “Down” button and keep it pressed. • After approx. 5 seconds the controller is in the reference mode if you continue to press the direction button. This is shown on the display of the manual switch with flashing display „**0 0 0**“. While “Down” button is still being pressed, the workstation moves slowly to the lower mechanical end stop. • After a successful reset, the lifting column moves to its programmed lowest position and shows this at the display. • Now the workstation can be moved by using the two direction buttons on the manual switch.
Memory positions button SAVE & button 1, 2, 3 or 4	To operate the defined memory positions, keep buttons "1", "2", "3" or „4“pressed. Up to four memory positions can be stored as follows: • Move the workstation with the buttons Up" or "Down" to the desired position • To save the position, press the “Save” button and immediately afterward the corresponding memory button "1", "2", "3" or "4". When the position has been successfully saved, the controller will click 2x.

Table 9: Function of the memory manual switch HSU-C

Storing the memory positions:

Move to the desired position with the buttons „Up“ / „Down“ . To save this position, press the “Save” button and immediately afterward the corresponding memory button "1", "2", "3" or "4". The memory position is retained even after a power failure.

e.g. the memory position „1“ :

Press the button “Save” and then immediately press „1“ .

When this position has been successfully saved, the controller will click 2x

Repeat the described procedure to store new memory positions.

7.5 Perform System Reset / Factory Reset

7.5.1 System Reset

A **system reset** must be performed both during the initial start-up and upon a power failure during the process. This is used to protect the workstation. Proceed as follows:

<u>- Up / Down manual switch HSM-B</u>

Symbol	Function
Hold for 5 seconds	<u>Reset:</u> • Press the "Down" button and keep it pressed. • After approx. 5 seconds the controller is in the reference mode if you continue to press the direction button. While "Down" button is still being pressed, the workstation moves slowly to the lower mechanical end stop. • After a successful reset, the lifting column moves to its programmed lowest position and the controller clicks 2x • Now the workstation can be moved by using the two direction buttons on the manual switch.

<u>- Memory manual switch HSU-C</u>

Symbol	Function
Hold for 5 seconds	<u>Reset:</u> • Press the "Down" button and keep it pressed. • After approx. 5 seconds the controller is in the reference mode if you continue to press the direction button. This is shown on the display of the manual switch with flashing display „**0 0 0**". While "Down" button is still being pressed, the workstation moves slowly to the lower mechanical end stop. • After a successful reset, the lifting column moves to its programmed lowest position and shows this at the display. • Now the workstation can be moved by using the two direction buttons on the manual switch.

7.5.2 Factory Reset

With the **factory reset**, the electrical controller can be reset to its original factory settings. This will reset any subsequent adjustments made with the manual switches.

- Up / Down manual switch HSM-B

Symbol	Function
▼ ▲	Factory Reset: • Press the direction buttons 3x "Down" ▼ , 1x "Up" ▲ and 1x "Down" ▼ quickly one after the other within about half a second. When the reset is successful, the controller clicks 2x. • The controller has now been reset to factory settings. It is now back in the delivery state.

- Memory manual switch HSU-C

Symbol	Function
1 2 ▲ S 4 ▼ S 0 SAVE	Factory Reset: • Press and hold the three buttons „1" 1, „2" 2 und Up" ▲ for 3 seconds. • Now the display shows „S" and one number (e.g. „4") • Press the button „Down" ▼ until the display shows „S 0" S 0 • Now the display shows „S 0" S 0 • Press the button „Save" SAVE • The controller has now been reset to factory settings. It is now back in the delivery state.

IMPORTANT If the Height Adjustment System does not function immediately, disconnect power from the unit and contact the authorized dealer.

IMPORTANT Do not disassemble the system components (i.e. lifting elements, electrical controller, switch) unless authorized by SUSPA GmbH. Any attempt to repair the system or the system components without the authorization of SUSPA GmbH will void the warranty.

7.6 Programming new Upper and Lower Limit

Setting new upper and lower height limitations.

In some cases, lifting elements are installed in such a way that the entire path of the drive cannot be used, e.g. by attachments or coverings on the table. For such cases it is possible to set new upper and lower limitations. In this case, the user heights can only be set within the limits set by the factory heights.

ATTENTION:

Lower virtual stroke limits ("container stop") become the new lowest end position, and upper virtual stroke limits ("shelf stop") become the new highest end position.

Lower virtual stop positions can only be saved in the lower half of the movement range, while upper virtual stop positions can only be saved in the upper half. Each position must be set separately.

IMPORTANT

Before new height limits can be saved, the existing user height limits must be deleted! You can only set new limits after deletion.

7.6.1 Delete Setting Current Upper Limit with Up/Down manual switch HSM-B

Step 1

Press „UP“ button to move the tabletop to the upper half of the adjustment range.

Step 2

Press and hold „UP“ and “DOWN” buttons simultaneously for 10 seconds, the controller will then click **1x** and the originally stored upper virtual stroke limit (shelf stop) will now be deleted.

7.6.2 Setting Upper Limit with Up /Down manual switch HSM-B

Step 1

Press „UP“ button until the desired upper stroke limit (user height e.g. 350 mm) is reached.

=>The table must be in the desired upper end position

Step 2

Press and hold „UP“ and “DOWN” buttons simultaneously for 10 seconds, the controller will then click **2x** and the new upper virtual stroke limit (shelf stop) will now be stored.

7.6.3 Delete Setting Current Lower Limit with Up/Down manual switch HSM-B

Step 1

Press „DOWN“ button to move the tabletop to the lower half of the adjustment range.

Step 2

Press and hold „UP“ and “DOWN” buttons simultaneously for 10 seconds, the controller will then click **1x** and the originally stored lower virtual stroke limit (container stop) will now be deleted.

7.6.4 Setting Lower Limit with Up/Down manual switch HSM-B

Step 1

Press „DOWN“ button until the desired lower stroke limit (user height e.g. 30 mm) is reached.

=>The table must be in the desired lower end position

Step 2

Press and hold „UP“ and “DOWN” buttons simultaneously for 10 seconds, the controller will then click **2x** and the new lower virtual stroke limit (container stop) will now be stored.

ATTENTION:

A minimum distance must remain between the upper and lower stroke limits to ensure the table can still move after adjustment. This minimum distance is included in the parameter set for the respective controller. It is not possible to save a lower or upper user height if this distance is exceeded.

7.6.5 Delete Setting Current Upper Limit with Memory manual switch HSU-C

Step 1

Press „UP“  button to move the tabletop to the upper half of the adjustment range.

Step 2

Press and hold „SAVE“ 

button simultaneously for 10 seconds, the controller will then click **1x** and the originally stored upper virtual stroke limit (shelf stop) will now be deleted.

7.6.6 Setting Upper Limit with Memory manual switch HSU-C

Step 1

Press „UP“  button until the desired upper stroke limit (user height e.g. 350 mm) is reached.

=>The table must be in the desired upper end position

Step 2

Press and hold „SAVE“ 

button simultaneously for 10 seconds, the controller will then click **2x** and the new upper virtual stroke limit (shelf stop) will now be stored.

7.6.7 Delete Setting Current Lower Limit with Memory manual switch HSU-C

Step 1

Press „DOWN“ button to move the tabletop to the lower half of the adjustment range.

Step 2

Press and hold „SAVE“ button simultaneously for 10 seconds, the controller will then click **1x** and the originally stored lower virtual stroke limit (container stop) will now be deleted.

7.6.8 Setting Lower Limit with Memory manual switch HSU-C

Step 1

Press „DOWN“ button until the desired lower stroke limit (user height e.g. 30 mm) is reached.

=>The table must be in the desired lower end position

Step 2

Press and hold „SAVE“ button simultaneously for 10 seconds, the controller will then click **2x** and the new lower virtual stroke limit (container stop) will now be stored.

ATTENTION:

A minimum distance must remain between the upper and lower stroke limits to ensure the table can still move after adjustment. This minimum distance is included in the parameter set for the respective controller. It is not possible to save a lower or upper user height if this distance is exceeded.

7.7 Faults and Error Indications

⚠ **WARNING**

Risk of hand injury because of failure to observe the danger zone

There are risks of injuries resulting from improper conduct. Never remove wedged parts or foreign bodies with your bare hands.

Use suitable aids.

Malfunctions may occur during operation. These are caused by:

- Collision with an obstacle during upward/downward movement of the lifting system.
- Overload of the lifting system with a mechanical load that is too heavy.
- Overload of the lifting system caused by traversing the system too frequently.
- Sudden power supply outage for the lifting system

Details and particulars regarding occurring errors and the rectification thereof can be found in the instruction manual of the electrical controller:

https://www.logicdata.net/downloads/

7.7.1 Fault and Operational Messages

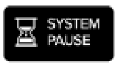
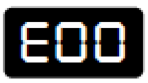
7.7.1.1 Acoustic status messages of the control box SmartNeo 3G

When the electrical controller is connected, it acoustically informs the user about the system status and the reason for the last shutdown:

Number of clicks of the controller	Meaning
2 x	**Normal operation:** The system works normally
1 x	**Emergency mode:** The system is in emergency mode. The motor cannot be operated. Check the error code.
3 - 6 x	**Last shutdown incomplete / Forced reset:** Check the error code. If the controller could finish the complete data backup before the power failure, it will click 4-5 times during the next startup and enter System Reset mode (Section 7.5.1).

7.7.1.2 Error Messages (when using Memory manual switch HSU-C)

When using the memory handset HSU-C,
error messages are shown on the display:

Indicated Error Code on the Display	Meaning	Necessary Action
  Display shows “Hot” or “System Pause”	Overheating protection has been activated. Duty cycle possibly exceed.	Since the controller's overheat protection has been activated, wait a few minutes until the controller has cooled down. The programmed duty cycle has been activated. See section 7.3. The system may have been overloaded.
	Display doesn’t show the current position during operation	Disconnect the electrical controller from the power supply. Wait approximately 30 seconds before reconnecting the controller to the power supply. The current position should then be shown on the display during operation.
	Internal error channel 1	Disconnect the electrical controller from the power supply. Wait approximately 20 seconds before reconnecting the controller to the power supply. If this error persists, try performing a system reset (section 7.5.1).

E12	Motor channel 1 isn't contacted or defect on motor channel 1	Check that the lifting element is connected to motor channel 1 (M1) of the control box. If motor channel 1 is properly connected, disconnect the electrical controller from the power supply. Fix the external short circuit. Ensure all cables are connected correctly. Reconnect the system, then operate as normal.
E24	Overcurrent Motor M1	Check that nothing is blocking the table's range of movement. Perhaps the system had been overloaded.
E62	Stop due to overload protection of the control box	Check that nothing is blocking the table's range of movement. Perhaps the system had been overloaded.
E60	ISP activated	Release all buttons and wait until the drive back function is completed. Check that nothing is blocking the table's range of movement.
E61	Motor replaced	Connect the new lifting element at the correct control box channel M1. Make sure all cables are connected correctly. Preform a system reset (section 7.5.1).
E65	Overcurrent while operation	Check that nothing is blocking the table's range of movement. Perhaps the system had been overloaded.
E72	Position Error	Disconnect the electrical controller from the power supply. Wait approximately 20 seconds before reconnecting the controller to the power supply. If this error persists, try performing a system reset (section 7.5.1).
E81	Internal error	Disconnect the electrical controller from the power supply. Wait approximately 20 seconds before reconnecting the controller to the power supply. If this error persists, try performing a factory reset (section 7.5.2).

Table 10: Error codes Memory manual switch HSU-C

⚠ **CAUTION**

Do not operate the table system if problems persist. For further information, please contact SUSPA GMBH.

7.7.1.3 Important Display Codes and their Meanings

- **Compulsory reset**

The Height Adjustment System is not properly initialized during startup or is disconnected from the main power during the run or the difference in height of the lifting elements is too large due to improper operation.

Indicator:

- **When using the Up/Down manual switch HSM-B:**
  An acoustic error message is given in accordance with section 7.7.1.1

- **When using the Memory manual switch HSU-C:**

  Driving commands are rejected by the LED flashing sequence 

  on the memory handset while the button is pressed

Solution: Ensure that the lifting elements and the power cable are correctly connected to the control box and check that the mechanism is not too stiff or jammed.

Perform system reset (see also section 7.5.1):

Pressing the "Down"  button for 5 seconds starts the reset mode. The workstation moves slowly to the lower mechanical end stop. The controller confirms the successful system reset with a double click.

- **Connection error**

Manual switch, lifting element or power plug are not correctly connected to the controller.

Indicator: Diverse symptoms

Solution: Check the correct connection of the components, make sure that all connectors are firmly plugged into the corresponding sockets!

7.7.2 Troubleshooting

This section contains remedial measures in case of malfunctions. If an error or fault occurs that is not listed in this table, please contact your supplier.

The list below handles problems that are caused directly in connection with the controller.

⚠ CAUTION The troubleshooting and fault rectification should be done only by a specialist who has completed his professional education as an electro-mechanical installation engineer or an equivalent qualification. Make note of the user groups in section 2.5.3.

IMPORTANT Pay attention to the initialization (system reset) in section 7.5.1

Many system problems can be attributed to electrical cables that are not connected correctly, system load conditions, or incorrect mounting hardware usage. In most cases, problems can be solved by reviewing the following system problems, possible causes, and implementing the recommended solutions.

Problem: System does not operate

Possible Causes	Recommended Solutions
Power Cord is not connected	➲ Connect power cord to motor controller and/or power source completely.
Motor Cable is not connected	➲ Connect motor cable to gear motor and/or motor controller completely.
Switch Cable is not connected	➲ Connect switch cable to motor controller completely
Defective Motor Controller	➲ Contact SUSPA GMBH for replacement.
Defective Switch	➲ Contact SUSPA GMBH for replacement.
System Load Rating Exceeded	➲ Verify system load does not exceed rating and remove weight as needed.
Striking of an object when raising or lowering (e.g. a trashcan etc.)	➲ Remove the object.

Table 11: Troubleshooting: System does not operate

	Manual switch with display	Manual switch without display
1. The controller is not working; General Testing	If nothing is shown on the display, check: ▪ whether the power cable is plugged in properly into the controller ▪ whether the power cable is plugged in properly into the socket ▪ whether the socket is supplying power or is switched on ▪ Replace the manual switch in order to ensure that the manual switch is not defective ▪ If the error persists, continue with step 2.	Check: ▪ whether the power cable is plugged in properly into the controller ▪ whether the power cable is plugged in properly into the socket ▪ whether the socket is supplying power or is switched on ▪ Replace the manual switch in order to ensure that the manual switch is not defective ▪ If the error persists, continue with step 2.
2. The controller does not work, no acoustic signal sounds	▪ Initialize the control system by performing a system reset (Section 7.5.1). ▪ Notify your service partner if the controller is still not working.	
2. The controller does not work, an acoustic signal sounds	▪ Initialize the control system by performing a system reset (Section 7.5.1). ▪ Notify your service partner if the controller is still not working.	
4. The table moves briefly and then comes to a standstill	▪ Initialize the control system by performing a system reset (Section 7.5.1). ▪ Notify your service partner if the controller is still not working.	

Table 12: Troubleshooting

8 Service and Maintenance

8.1 General

- Observe and follow the general accident prevention guidelines.
- Carry out prescribed adjustment, maintenance, and upkeep work according to schedule.
- Replace defective components as quickly as possible.
- Only use tools that are in perfect condition.
- Keep suitable containers ready for small parts that may have to be disassembled.
- Only use original spare parts approved by the manufacturer.
- Tighten screw connections that have been loosened after doing maintenance and service work.
- Reattach disassembled protective devices before the first re-commissioning. Make sure that the protective equipment is functioning properly.
- Perform a functional test (test run) after maintenance or repair work.
- Check the proper function of all safety and protective devices.
- Remove any used tools, screws, aids or other objects from the operational area of the Height Adjustment System.

8.2 Instructions for Maintenance

8.2.1 Cleaning

⚠ WARNING

Danger of injury by disregarding the manufacturer's instructions

The function of the components may be impaired because of ignoring the manufacturer's cleaning instructions.

Follow all applicable environmental regulations when cleaning.

- ➲ Remove all cleaning aids after performing cleaning work.
- ➲ Retract the Height Adjustment System before cleaning.
- ➲ Remove the load from all lifting elements before maintenance works.
- ➲ Unplug the motor control from the mains before cleaning.
- ➲ Stabilize the workstation or the structure on which the Height Adjustment System is secured before maintenance works.
- ➲ Allow the components to cool off before cleaning.
- ➲ Clean the system components with a mild detergent and a damp cloth.
- ➲ Liquid entry of any kind must be strictly avoided.
- ➲ Do not use any corrosive detergents or high-pressure washing systems to clean the components of the Height Adjustment System.
- ➲ Before restarting operation make sure the system is clean and dry.

8.3 Maintenance

The Height Adjustment System should be checked regularly to determine whether there are conditions that lead to excessive wear or damage to components. Especially the following possible causes of system failure should be considered.

IMPORTANT The maintenance instructions given in the following must be understood as recommendations by the manufacturer. The operator of the Height Adjustment System is obligated to document maintenance-related observations and to supplement and add specifications to the maintenance list in these installation instructions on their own. In addition, the maintenance instructions of the manufacturers of outsourced parts must be observed and followed!

8.3.1 Changing Load Conditions

Correct the overload conditions immediately and also make sure that there is even load distribution on the workstation in order to avoid premature wear of the mechanical components.

8.3.2 Contamination

No sterile cleanliness is necessary, but regular cleaning will prolong the life of the system. Dust and dirt can cause wear in moving components, such as shafts and bearings. Therefore, efforts should be made to keep the components clean during the entire operating period.

8.3.3 Damages to Electrical Wires

Check the insulation of the electrical wires for visible signs of aging and wear. Replace defective or damaged wiring.

9 Decommissioning

9.1 Component Storage

The storage area should be cool and dry in order to prevent corrosion on the Height Adjustment System parts.

- ➲ Pack the Height Adjustment System parts in such a way that they are protected from damage by external influences during storage.
- ➲ If necessary, use cardboard boxes and other packaging material.
- ➲ Secure the Height Adjustment System parts against accidental tilting and instability.

Transport and storage conditions	
Temperature and relative humidity:	-25 °C to +40 °C and max. 68% relative air humidity (non-condensing) or +40 °C to +60 °C and max. 32% relative air humidity (non-condensing) Temperatures of more than +40 °C for periods not exceeding 10h.
Acclimatization before operation:	Product must be acclimatized to acceptable operating conditions before assembly.

Table 13: Transport and storage conditions

9.2 Disposal of Components

- ➲ Dispose of the packaging material in accordance with national regulations.
- ➲ Dispose of cardboard packaging, protective packaging made of plastics and preserving agents separately and professionally.

The users are obliged to return the old equipment to a returns center for old electrical and electronic equipment.

The disposal of electrical appliances is subject to EU Directive 2012/19/EU or the respective national legislation. The disposal of the components (also operating materials) in other countries should be performed in accordance with the local disposal regulations and environmental protection laws in the country where the machine is used.

If the equipment has reached the end of its life cycle, ensure safe and professional disposal when dismantling, in particular for those parts or substances which are hazardous for the environment. This includes lubricants, plastics and batteries etc.

- ➲ Have the machine disposed of properly by an authorized specialist company on account of the potential risk of environmental pollution.

10 Appendix

10.1 Index of Tables

10.2 Index of Figures

10.3 Incorporation

EC-Declaration of Incorporation

in accordance with Machinery Directive (2006/42/EC)

The manufacturer declares herewith
SUSPA GmbH
Eisenhaemmerstrasse 3
92237 Sulzbach-Rosenberg
GERMANY

that the design of this partly completed machine

Machine identification:	SUSPA Varibase-SMS (controller SmartNeo-3G-EU)
Year of construction:	2025
Designated use:	The SUSPA Varibase-SMS (controller SmartNeo-3G-EU) is used for height adjustment of sitting or standing workstations or work tables

the delivered version is compliant with Directive 2006/42/EC of the European Parliament and of the Council dated 17 May 2006 on machinery, and conforms with the following harmonized standards and normative documents to which this declaration refers:

Applicable directives:	EC Machinery Directive (2006/42/EC)
	EC Directive for Electromagnetic Compatibility (2014/30/EU)

Applied harmonized standards:

1. EN ISO 12100:2010: Safety of machinery – Risk assessment and risk reduction
2. EN ISO 13849-1:2008: Safety of Machinery – Safety-related components of control systems – Part 1: General design guidelines
3. EN 60335-1:2012+ … +A15:2021 (+A16:2023) Safety of electrical appliances for household and similar purposes (without functional safety chapters 19.11; 22.46 and Annex R)
4. EN 61000-6-1:2007/-6-2:2005/-6-3:2007+A1:2011/-6-4:2007+A1:2011: (partially) Electromagnetic compatibility (EMC)
5. RoHS Directive 2011/65/EU: All Components fulfill the European Union RoHS Directive

The technical documentation for the partly completed machine is available.

We hereby guarantee that the certification procedure has been carried out in accordance with the Machinery Directive 2006/42 / EC. The start-up is prohibited until it has been determined that the machine into which the above mentioned partly completed machine is to be installed complies with the provisions of Machinery Directive 2006/42 / EC. This declaration will lose its validity if any modifications are made to the partly completed machine without consultation with us. Any unauthorized modifications in this sense excludes any liability on our part.

Sulzbach-Rosenberg,
29th October 2025

Signature