motion for your LOGIC OFFICE

User Manual

Document Version 2.0/October 2018

SMART**neo**

LOGICDATA
MOTION FOR YOUR LIFE

INHALT

1 Preface **4**
1.1 Copyright 4
1.2 Royality-free use of images and text 4
1.3 Trademark 5
1.4 Symbols and signal words used 5

2 Safety **6**
2.1 General safety regulations and obligations 6
2.2 Residual hazards 6
2.3 Qualified persons 10
2.4 Liability 10

3 Product **11**
3.1 Description 11
3.2 Intended use 13

4 Delivery scope **13**

5 Unpacking **13**

6 Assembly **14**

7 Commissioning **16**
7.1 Connecting drives 16
7.2 Connecting the hand control 17
7.3 Cascading 17
7.4 Connecting the power supply 17
7.5 Overall configuration (example) 18
7.6 Reset during first start up 18

8 Dismantling **19**

9 Operation **19**

9.1 Adjusting the table height 20
9.2 Saving the memory position 20
9.3 Actuating the memory position 21
9.4 Manual reset 22
9.5 Correcting the height display 23

10 Software-dependent functions 24
10.1 Slow travel speed area 24
10.2 Safety area 24
10.3 Container stop and shelf stop positions 25
10.4 Plug Detection 26
10.5 Auto Detect Number of Drives 27
10.6 Detection of SLIMdrive drives 27
10.7 Duty cycle monitoring 28
10.8 Change of the display unit (cm or inches) 29
10.9 Changing the number of motors 30
10.10 Control system to factory settings reset (SO Menu) 31

11 Collision protection 33
11.1 Intelligent System Protection (ISP) 33
11.2 Drive back 34

12 Maintenance 34

13 Fault Removal 34
13.1 Possible malfunctions and their remedy 35
13.2 Error messages on the display of the hand control 36
13.3 Click-Codes 39

14 Additional information 40
14.1 Technical specification 40
14.2 Disposal 40

1 PREFACE

The product documentation consists of this manual and a data sheet.

This document is intended to enable assembly personnel safe working with the products. Assembly personnel must therefore have the complete documentation available at all times. The document must be complete and legible without problems. Please observe the notes listed in this document in order to avoid hazards and damage to the products.

The information in this document was compiled with great care. Even though regular revision and updating is used to attempt ensuring correctness and completeness of the content, no guarantee can be given for complete absence of errors and for completeness.

If you experience problems or have questions regarding the documentation, please contact our technical documentation department.

1.1 COPYRIGHT

© February 2018 by LOGICDATA Electronic und Software Entwicklungs GmbH

All rights reserved. All information in this documentation is copyrighted. No part of this documentation may be duplicated or reproduced without the written consent of LOGICDATA. LOGICDATA reserves the right to make changes to the specifications and other information in this documentation without prior announcement.

1.2 ROYALTY-FREE USE OF IMAGES AND TEXT

After the purchase and complete payment of the product, the running texts and graphics in Chapter 9 “Operation” of this documentation may be used by the customer to create the end customer documentation for the height-adjustable table, in which SMARTneo is installed, for 10 years after delivery at no cost. This licence does not include logos, design and page layout elements of LOGICDATA. The customer may make all necessary changes to the texts and graphics in order to adjust them to the purpose of the end customer documentation. The texts and graphics must not be – changed or unchanged – sold, published digitally or sublicensed. A transfer of this licence to third parties without the permission of LOGICDATA is also precluded. The complete property rights and copyright for the texts and graphics remains with LOGICDATA. Texts and graphics are offered in the current state without warranties or promises of any kind.

Please contact our technical documentation department to obtain texts and graphics in an editable format.
E-mail: documentation@logicdata.net

1.3 TRADEMARK

Documentation can possibly also include representations of registered trademarks of goods or services as well as information on copyrighted or otherwise protected know-how of LOGICDATA or third parties. In all cases, all rights remain exclusively with the respective owner of the rights.

LOGICDATA® is a registered trademark of LOGICDATA Electronic und Software GmbH in the USA, the European Union and other countries.

1.4 SYMBOLS AND SIGNAL WORDS USE

⚠DANGER	**Imminent threat to the lives of individuals** Warns against a dangerous situation. Failure to observe the warning will result in death or severe personal injury.
⚠WARNING	**Risk of personal injury (serious injuries) and additional material damage** Warns against a dangerous situation. Failure to observe the warning can result in severe personal injury.
⚠CAUTION	**Danger of material damage and additional low risk of injury** Warns against a dangerous situation. Failure to observe the warning can result in injuries or material damage.
NOTICE	Notice that facilitates the handling or understanding of the product.
	Damage from electrostatic discharge (ESD)

2 SAFETY

2.1 GENERAL SAFETY REGULATIONS AND OBLIAGTIONS

Generally, the following safety regulations and obligations apply to handling the product:

- The product must be operated only in perfect and clean state.
- It is prohibited to remove, change, bridge or circumvent any protection, safety or monitoring equipment.
- It is prohibited to convert or change the product without the written release of LOGICDATA.
- In case of malfunctions or damage, the product must be replaced immediately.
- Repairs are prohibited. Defective products must be replaced as a whole..
- Hardware replacements or changes to the system configuration are permitted only in non-energi zed state.
- Only qualified persons may carry out work on the system
- The national employee protective conditions as well as national safety and accident prevention regulations apply to system operation.

2.2 RESIDUAL HAZARDS

Even with maximum diligence during the design and construction of the components and taking into consideration all safety-relevant issues, there can be residual hazards which were evaluated using via risk assessment.

⚠WARNING	**Danger of electric shock** Never open the motor control unit. There is a danger of electrical shock**.**
⚠DANGER	**Danger due to incorrect mains voltage** The motor control must be operated only with mains voltage and the frequency ranges marked on the rating plate of the mains adapter must not be exceeded. There can be electrical hazards otherwise.
⚠DANGER	**Disconnect the power supply** Disconnect the power supply before removing or connecting any components. There can be electrical hazards otherwise.

⚠DANGER	**Don‘t change or convert components** The components must never be changed or converted.
⚠DANGER	**Danger of crushing when changing the tabletop height** There is a crushing hazard if the table top position is changed. Therefore always make sure that there are no items or persons in the danger zone and that no one reaches into the danger zone.
⚠DANGER	**Risk of explosion** Do not operate the components in a potentially explosive atmosphere.
⚠WARNING	**Usage by children and persons with restriction** This device can be used by children above the age of 8 years as well as by persons with reduced physical, sensorial or mental capacities or a lack of experience and knowledge if they are supervised or were instructed in the safe use of the device and understand the resultant hazards. Children may not play with the device.
⚠DANGER	**Danger in case of damage** When an electrical line is damaged, it must be replaced immediately through the manufacturer or on the customer service in order to prevent further damage. Recommissioning must not be done until the fault removal has taken place.
⚠WARNING	**Danger in case of humidity** Do not use the motor control unit outside or in wet areas!
NOTICE	Ensure ESD-oriented handling during the unpacking. Errors that can be attributed to electrostatic discharge will void warranty claims.
⚠DANGER	**Danger due to liquids or heated surfaces** Never dip the connection cable or parts of the hand control into liquids and keep the connection cable away from heated surfaces.

⚠WARNING	**Danger due to continuous operation** The motor control unit is not designed for continuous operation. Changing the table top position without disruption must not exceed the duty cycle specified on the rating plate!
⚠DANGER	**Danger due to defective power supply cable** Always use a standardized power supply cable. Ensure that the power supply cable is not damaged. Operation of the motor control unit with a damaged power supply cable is prohibited.
⚠DANGER	**Danger due to self-built products** Connecting self-built products on the motor control unit is prohibited. Use only components suitable for LOGICDATA motor control units as the device may otherwise be damaged or destroyed.
⚠DANGER	**Remove from the electricity network before plugging** Before plugging hand control in and out, you have to pull the power supply cable from the mains plug without fail.
⚠DANGER	**Danger due to malfunction** With a malfunction (e.g. if the motor control unit continues to run independently when a movement button is stuck), the mains plug must be pulled immediately.
⚠DANGER	**Danger due to humidity** Protect the motor control unit against moisture, dripping and spray water!
⚠DANGER	**Danger due to changes to motor control** Conversions or changes to motor control unit and control element are prohibited.
⚠DANGER	**Danger of crushing** In the event of a malfunction (motor or module error), it can happen that the table top moves a bit with every attempt to start before the safety shutdown engages. Please note the increased crushing hazard hereby!

⚠DANGER	**Danger due to inactive collision protection** With all reset processes (Chapter 9.4 Manual reset), the collision protection (ISP) is inactive. Please note the increased crushing hazard hereby!
⚠DANGER	**Remove from the electricity network before cleaning** The motor control unit must be cleaned exclusively with a dry, soft cloth. Before cleaning, you must pull the power supply cable from the mains plug without fail.
⚠DANGER	**Cleaning by children without a supervision** Cleaning may not be carried out by children without supervision.
⚠DANGER	**Danger of crushing** There is a crushing hazard if the table top position is changed. Therefore make sure that there are no items or persons in the danger zone and that no one reaches into the danger zone.
⚠WARNING	**Increased safety risk** The firmware is delivered with deactivated double-click function. If you activate the function, the grading of the safety functions according to EN ISO 13849-1 PL b, Category B, loses its validity. The legal requirements from the standard are no longer met with this function. To use the double-click function, you have to carry out a new assessment of the higher safety requirements according to EN 60335-1 which cannot be met by this product. LOGICDATA is not liable for injuries or damage which can result from the activation of the double-click function.
⚠DANGER	**Various dangers when exceeding the carrying capacity** Ensure that the maximum load of the table specified by the table manufacturer is not exceeded.
⚠DANGER	**Use compatible hand control** For the HV socket, use only HSC-OV-MDF-4M2 or LOGICDATA-compatible hand control cables. Especially LAN cables or comparable cables must not be connected to the control unit.

2.3 QUALIFIED PERSONS

Products of LOGICDATA may be installed and commissioned only by qualified persons who are authorised to plan installation, install, commission or maintenance/repair and who have read and understood the product documentation. Qualified persons have, because of their training, professional experience and timely professional activity, the required technical knowledge to be able to test, evaluate and handle electrical and mechatronic products and systems according to the generally valid standards and the guidelines of electrical engineering and furniture production. They know and observe the basic regulations for industrial safety and accident prevention and the basic and specialised standards applicable to the special application.

All safety standards and guidelines relevant for the application must be taken into consideration. The furniture manufacturer carries out a safety review of the overall system and is responsible for the certification of the overall system.

2.4 LIABILITY

The information in this documentation describes the characteristics of the products without assuring them.

The products comply with the state of the art as well as the applicable safety and health regulations. But there can still be hazards through faulty operation or incorrect use.

LOGICDATA is not liable for damage resulting from:

- Inappropriate use of products
- Failure to observe the documentation
- Unauthorised changes to the products
- Unprofessional work performed on and with the product
- Operation of a product even though it is damaged
- Wear parts
- Incorrectly carried out repairs
- Unauthorised, inappropriate change of operating parameters
- Disaster situations, external influences or force majeure.

The manufacturer of the height-adjustable tables into which the LOGICDATA products are installed is responsible for the LOGICDATA products in the specific application and the compliance with the corresponding guidelines, standards and laws. LOGICDATA is not liable for damage that can be attributed directly or indirectly to the delivery, performance or use of this document.

3 PRODUCT

3.1 DESCRIPTION

SMARTneo is a motor control for electrically height-adjustable desks. The following variants are available:

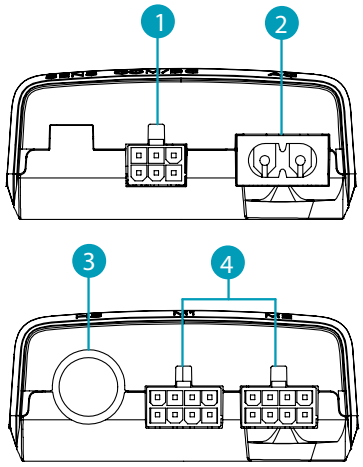
SMARTneo-2-YYY-EU

- Designed for the European power supply system.
- The double-click function is not permissible in Europe.
- Two motors can be actuate to the control.
- Two controls can be connected to one cascading cable LOG-CBL-SMARTneo-SYNC-1000 in order to actuate up to four motors.

SMARTneo-2-YYY-US

- Designed for the US-American power supply system.
- The double-click function can be activated in the parameters.
- Two motors can be actuate to the control.
- Two controls can be connected to one cascading cable LOG-CBL-SMARTneo-SYNC-1000 in order to actuate up to four motors.

Fig. 1: Connections to the control



① 6-pin minifit for cascading cable (COM/DC)
② 2-pin C7 for current supply (AC)
③ DIN for hand control (HC)
④ 8-pin minifit for actuators (M1, M2)

The mechatronic overall system for the vertical adjustment consists of the following products:

One engined table

- 1 control SMARTneo
- 1 actuator, e. g.: SLIMdrive-500, SLIMdrive-660s
- 1 hand control e. g.: TOUCHfx, HSF or another LOGICDATA hand control, LOGIClink
- 1 mains cable with two-pin connection C8

Two engined table

- 1 control SMARTneo
- 2 actuators, e. g.: SLIMdrive-500, SLIMdrive-660s
- 1 hand control e. g.: TOUCHfx, HSF or another LOGICDATA hand control, LOGIClink
- 1 mains cable two-pin connection C8

Four engined table

- 2 controls SMARTneo
- 1 cascading table
- 4 actuators , e. g.: SLIMdrive-500, SLIMdrive-660s
- 1 hand control e. g.: TOUCHfx, HSF or another LOGICDATA hand control, LOGIClink
- 2 mains cable with two-pin connection C8

Only the listed products are compatible and may be connected to the control.

Because of technical limits, the following restriction exists for the system configuration:

- Only system components released by LOGICDATA must be used.

3.2 INTENDED USE

SMARTneo is an electrical device for use at home. It may be used only in dry interior spaces and according to the product description. The installation site must be level, vibration-free and free from contamination. It must be ensured that there is no extraordinary exposure through dust or toxic or caustic gases and vapours or through inadmissible heat exposure at the installation site.

This device can be used by children above the age of 8 years as well as by persons with reduced physical, sensorial or mental capacities or a lack of experience and knowledge if they are supervised or were instructed in the safe use of the device and understand the resultant hazards. Children may not play with the device. Cleaning may not be carried out by children without supervision.

After the mechatronic system has been installed in a table, the table manufacturer / customer is responsible for a risk analysis and assessment of the complete table and for creating a user documentation.

4 DELIVERY SCOPE

The delivery scope comprises controls, without cables or compatible products. The controls are packed in cartons. Fitting material is not included in the delivery scope.

5 UNPACKING

Proceed as follows to unpack:

1. Put on an antistatic bracelet.

NOTICE

Ensure ESD-oriented handling during the unpacking.
Errors that can be attributed to electrostatic discharge will void warranty claims.

2. Remove the packing material.
3. Check the contents of the package for completeness and damage.
4. Dispose of packaging material in an environmentally responsible way.

6 ASSEMBLY

Mount the SMARTneo motor control on the underside of the table top. For assembly you need the following tools and materials:

- 1 cross screwdriver
- 1 pencil
- 1 drilling machine (for predrilling)
- matching screws (not included in the delivery)

NOTICE	Assembly of the system is described in the corresponding customer manual.

⚠WARNING	**Unplugging mains cable** During installation of the system, the motor control unit's power supply cable must be disconnected from the mains plug.

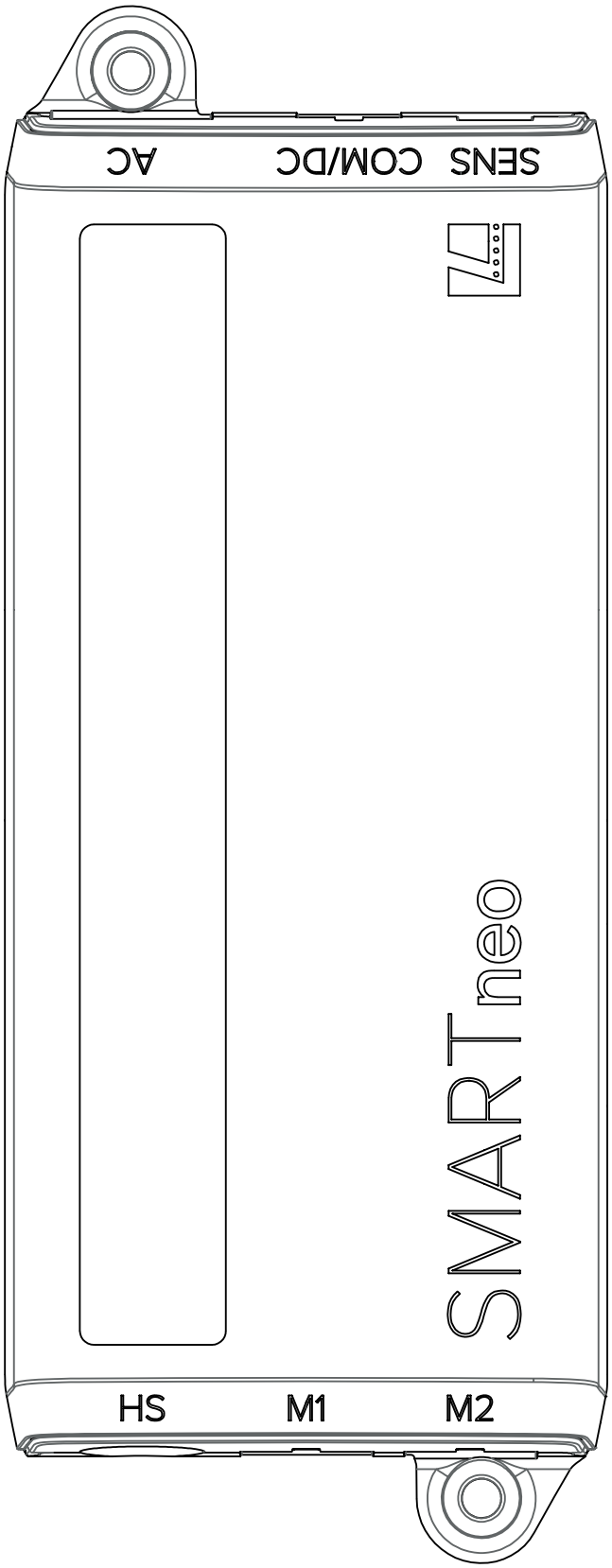
⚠WARNING	**Acclimation of the product** Before mounting and commissioning the SMARTneo, make sure that the product acclimatizes to the temperature and humidity values specified in the data sheet for operation.

To mount the SMARTneo motor control, proceed as follows:

NOTICE	We recommend mounting with the aid of the drilling template. If you do not want to use the drilling template, please follow the instructions in detail.

1. Position the motor control in the desired position on the table top.
2. Mark the drill holes with a pencil.
3. Pre-drill these 2 drill holes.
4. Attach the SMART to the pre-drilled locations with 2 screws.
5. Tighten the screws.

Fig. 2: drilling template



7 COMMISSIONING

The table system may be assembled only by qualified persons. The workplace must be clean, dry and ESD protected.

NOTICE	Ensure ESD-oriented handling during the unpacking. Errors that can be attributed to electrostatic discharge will void warranty claims.
⚠WARNING	**Power supply cable connection** Plug in the power supply cable only after all other electrical connections have been established. (Motors and hand control are connected to the control, etc.)
⚠DANGER	**Commissioning only by knowledgeable staff** Commissioning of the motor control unit may be carried out only by knowledgeable technical staff. Knowledgeable technical staff has the necessary electrotechnical training and is familiar with these operating instructions.
⚠DANGER	**Acclimation of the product** Before assembly and commissioning of the SMARTneo ensure that the product is acclimated for the temperature and humidity values specified in the data sheet.

Proceed as follows to commission the motor control unit SMARTneo:

7.1 CONNECTING DRIVES

Plug in the motor cables in the appropriate 8-pin motor bushings (M1, M2).

NOTICE	While plugging in the motor cables, be mindful of the parameterisation of the motor control unit.

NOTICE

While plugging in the motor cables, you must observe the sequence M1 and M2 without fail.

7.2 CONNECTING THE HAND CONTROL

Insert the hand control in the RJ 45 hand control bushing (HC).

7.3 CASCADING

Cascading enables, through the connection of up to two controls, the operation of up to four synchronized drives.

NOTICE

It must be specified in advance via parameters whether a control system is used for cascading. Minor deviations from the functions of a single control are possible.

NOTICE

For additional information regarding the cascading, please refer to the operating instructions for the cascading of motor controls. Operating instructions are available in the download area of the homepage www.logicdata.net

7.4 CONNECTING THE POWER SUPPLY

⚠WARNING

Check before you connect the power supply

Before you connect the power supply cable, check again:

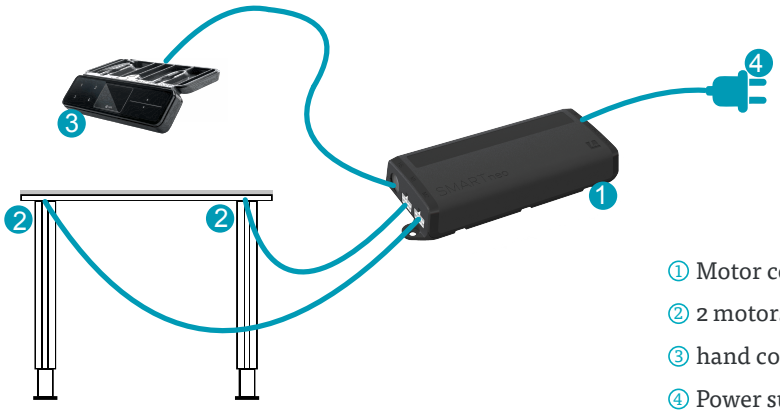
- whether the mains voltage complies with the rating plate of you control
- whether all components are connected to the correct bushings. The motor control unit SMARTneo is operational when the power supply cable is connected.

NOTICE

Depending on the parameterisation of the motor control unit SMARTneo, a reset or a calibration run can be necessary after the first connection of the power supply cable.

7.5 OVERALL CONFIGURATION (EXAMPLE)

The following figure shows a sample configuration:



① Motor control SMARTneo-2
② 2 motors (in the table legs) (M1, M2)
③ hand control (HC)
④ Power supply cable 2-pin(AC)

Abb. 3: Connections to the control SMARTneo

7.6 RESET DURING FIRST START-UP

During the first start-up, there is a compulsory reset in order to be able to commission the product.

The reset puts all columns on the same level. This ensures that the table top is moved parallel to the basic level. In addition, the control stores the connected components in the standard version.

After the reset, configuration changes are detected and rated as errors. The system no longer moves until the saved state has been restored.

⚠DANGER	**Danger of crushing** With all reset processes (Chapter 9.4), the collision protection (ISP) is inactive. Please note the increased crushing hazard hereby!

The execution of the manual reset is explained in chapter 9.4.

8 DISMANTLING

Proceed as follows for dismantling:

1. Disconnect the table's power supply.
2. Disconnect all plug connectors from the control.
3. Dispose of all parts within the scope of the valid shut-down in an environmentally responsible way and sorted according to material (see Chapter 14.2).

9 OPERATION

⚠DANGER

Danger during a thunderstorm
During a thunderstorm or if you are absent for a longer period of time, pull the power supply cable out of the socket. Otherwise, device damage may be caused by network-related overvoltage.

The motor control unit SMARTneo provides a broad range of functions. However, the availability of some functions depends on the hand control used.

The basic functions that can be executed with each hand control intended for the motor control unit SMARTneo are described in this section.

Fig. 4: User interface

The individual keys are represented as follows for further description:

▲ Table top up

▼ Table top down

SAVE Memory button

1	Memory position button 1
2	Memory position button 2
3	Memory position button 3
4	Memory position button 4

9.1 ADJUSTING THE TABLE HEIGHTS

This function serves for easy adjustment of the table top position up or down.

Proceed as follows to move the table top up or down:

▲ **Table top up**

Push the button until the required table top height has been reached.

▼ **Table top down**

Push the button until the required table top height has been reached.

NOTICE	The table top moves up or down until you release the button or the maximum or minimum table top height has been reached.
⚠DANGER	**Danger of crushing** There is a crushing hazard if the table top position is changed. Therefore always make sure that there are no items or persons in the danger zone and that no one reaches into the danger zone.

9.2 SAVING THE MEMORY POSITION

NOTICE	When the motor control unit is switched on for the first time and the parameters of the control were not adjusted appropriately, all saved positions will be equal to the lowest table top height (lower table top position).
NOTICE	The following functions of the motor control unit SMARTneo can be used only of you have a comfort hand control with display, memory position buttons and a memory button.

This function saves a defined table top height (one table top height per memory position button can be saved). Proceed as follows to save the table top position:

Move the table top to the desired height.

The display shows the table top position (e.g. 73 cm).

Press the **memory button.**

The display shows **S –**.

Press the required **memory position button**, e.g. 2.

The display shows **S 2**.

The control clicks twice when the saving process is completed.
After about two seconds, the table top position is displayed again.

9.3 ACTUATING THE MEMORY POSITION

You can use this function to adjust a saved table top position. Proceed as follows to adjust a saved table top position:

NOTICE

Availability of the double-click function depends on the software configuration of the motor control unit. The double-click function is available only for SMARTneo-2-YYY-US which is designed for the american market.

Version A (without double-click function)

Press the required memory position button (e.g. 2) and keep it
The table top moves until the saved table top position has been reached.
When you release the button before the saved table top position is reached, the table top stops and the saved table top position is not reached.
The table top has reached the saved table top position. Release the memory position button now.

The display shows the current (saved) table top position.

Version B (with double-click function)

2

Double-click the required **memory position button** (e.g. 2).
After the double-click, the table top automatically moves to the saved table top position.

The display shows the current (saved) table top position.

⚠DANGER	**Danger of crushing** There is a crushing hazard with an automatic table top position change. Therefore make sure that there are no items or persons in the danger zone and that no one reaches into the danger zone.
NOTICE	If you press another button during the automatic adjustment of the table top to a saved position, the table top will stop immediately. Then, you have to activate the automatic adjustment of the table to a saved position again.
⚠DANGER	**Increased safety risk** The firmware is delivered with deactivated double-click function. If you activate the function, the grading of the safety functions according to EN ISO 13849-1 PL b, Category B, loses its validity. The legal requirements from the standard are no longer met with this function. To use the double-click function, you have to carry out a new assessment of the higher safety requirements according to EN 60335-1 which cannot be met by this product. LOGICDATA is not liable for injuries or damage which can result from the activation of the double-click function.

9.4 MANUAL RESET

If the actual table top position is no longer used with the displayed table top position or an already configured motor control unit on another identically constructed electrically height-adjustable work station, you have to carry out an end position alignment of the lowest table top position.

Press the button **Table top down**.
Press the button **Table top down** until the table top has reached the lowest table top position (programmed table top position).

Press the button **Table top down** (and continue to press it).
After about 5 seconds, the table top is adjusted downward until the absolute lowest table top position is reached.
Release the button **Table top down**. The electrically height-adjustable workplace can be used as usual again.

⚠DANGER

Danger of crushing
With all reset processes, the collision protection (ISP) is inactive.
Please note the increased crushing hazard hereby!

9.5 CORRECTING THE HEIGHT DISPLAY

With this function, you can change the height display on the display but not the table top position of the table top. This function is available only for hand control with integrated display.

Proceed as follows:

Press the **memory button**.

The display shows **S –**.

Press the button **Table top down** (arrow toward the bottom) for approx. 5 seconds.

The display starts to flash.

Now use the button **Table top down** (arrow toward the bottom) or **table top up** (arrow toward the top) to adjust the height display.

Press the **memory button**.
The height display is now set to the entered table top position.

NOTICE

Please note that the table top position of the table top is not changed with this setting process. Only the display changes.

10 SOFTWARE-DEPENDENT FUNCTIONS

The motor control unit SMARTneo is parameterised with software before delivery. The following functions can be used only when the motor control unit is parameterised appropriately.

10.1 SLOW TRAVEL SPEED AREAS

This function (low speed area) causes the speed to be slowed automatically during the table top adjustment before the following positions are reached:

- Highest and lowest table top position
- All saved positions (e.g.: memory positions, container stop position)

10.2 SAFETY AREA

This function causes a safety stop at a defined table top position (configured with software). The safety stop functions as follows:

Press the button **Table top down** (and continue to press it).
The table top is adjusted to the start of the safety area.
The table top adjustment is stopped above the safety area.

Press the button **Table top down** again. The table top is then adjusted to the lowest table top position.

NOTICE	Saving the table top positions is not possible in safety areas.

10.3 CONTAINER STOP AND SHELF STOP POSITIONS

These two features can be used to limit the travel range of the table (if e.g. a container is below the table). A container stop position can be set in the lower half of the travel range, a shelf stop position in the upper half. If a container stop position is set, then this is used as the new bottom end position, a shelf stop position is equivalent to a new upper end position of the travel range. Proceed as follows to save a container stop / shelf stop position:

Put the table top in the position that you want to use as new container stop / shelf stop position. Use the buttons **Table top down** or T**able top up** until the required position is reached.

Press the **memory button** for 10 seconds. The control clicks **twice** when the position is saved.

or

With hand control equipped only with up and down button, the function can be carried out by pressing both the up and the down button simultaneously for 10 seconds.

&

simultaneously

NOTICE

A container stop position can be saved only in the lower half of the travel range and a shelf stop position only in the upper half of the travel range.
These steps must be carried out separately for a container stop position and for a shelf stop position.

Proceed as follows to **deactivate** a container stop / shelf stop position:

Put the table top in a random position in the lower half of the travel range in order to deactivate the container stop. Put the table top in a random position in the upper half of the travel range in order to deactivate the shelf stop.
Use the buttons **Table top down** or **Table top up** until the required position is reached.

Press S for 10 seconds. The control clicks **once** when the position is saved.

or

With hand control equipped only with up and down button, the function can be carried out by pressing both the up and the down button simultaneously for 10 seconds.

&

simultaneously

NOTICE

These steps must be carried out separately for a container stop position and for a shelf stop position.

10.4 PLUG DETECTION

The motor control unit SMARTneo detects whether a motor is connected to the respective motor bushing. The motor control unit also detects whether a motor was replaced (the availability of this function depends on the control type and the drives used). When a motor is missing or was replaced, the SMARTneo clicks three times. The display also shows an appropriate error code if the hand control is equipped with a display. Proceed as follows to remedy the error:

Possible situations:
A motor was removed from the SMARTneo while the control was connected to the power supply system.

Error code **E36, E37 or E38** is shown on the hand control display depending on which motor was removed.

Disconnect the power supply of the SMARTneo and wait at least 5 seconds.
Reconnect the missing motor.
Reconnect the power supply of the SMARTneo.
Carry out a **manual reset** (see Chapter 9.4).

10.5 AUTO DETECT NUMBER OF DRIVES

The SMARTneo can automatically detect the number of connected drives, it can thus be determined during commissioning whether e.g. 1 or 2 motors are to be controlled without having to change the parameterisation of the control. In order to be able to use the SMARTneo again after the drive configuration change, proceed as follows:

Possible situations:

- First use of the SMARTneo
- After restoring the factory settings (S0 menu)

The error code E70 is shown on the hand control display.

Disconnect the power supply of the SMARTneo and wait at least 5 seconds.
Connect the required number of motors.
Reconnect the power supply of the SMARTneo.
Carry out a **manual reset** (see Chapter 9.4).

10.6 DETECTION OF SLIMDRIVE DRIVES

The SMARTneo can automatically detect the type of connected SLIMdrive drives; it can thus be determined during commissioning whether it is a SLIMdrive-500 or a SLIMdrive-660S drive. In order to be able to use the SMARTneo with SLIMdrive drives for the first time, proceed as follows:

Possible situations:

- First use of the SMARTneo
- After restoring the factory settings (S0 menu)
- Different SLIMdrive drive types were connected to the control (e.g. a SLIMdrive-660S and a SLIMdrive-500)

The error code **E70** is shown on the hand control display.

Disconnect the power supply of the SMARTneo and wait at least 5 seconds.
Connect the required number of similar SLIMdrive drives.
Reconnect the power supply of the SMARTneo.
Carry out a **manual reset** (see Chapter 9.4).

In case that a SMARTneo is to be used for other drives than the previously used one (e.g. with a change from SLIM-drive-500 to SLIMdrive-660S drives), reset the control to the factory settings and follow the instructions above again.

NOTICE	The function of automatic detection of drive types is available only for LOGICDATA SLIMdrive drives.
NOTICE	This function is available only for motor group 1.
NOTICE	The automatic detection function of the SLIMdrive drive types depends on the settings in the software parameters of the SMARTneo. Please contact LOGICDATA for additional information.
NOTICE	If the number or type of connected drives changes, the control must be reset to the factory settings.

10.7 DUTY CYCLE MONITORING

The duty cycle monitoring causes the motor control to be disabled for a defined period of time when a defined duty cycle is reached.

NOTICE	You can find the precise specification of the duty cycle in the data sheet.

10.8 CHANGE OF THE DISPLAY UNIT (CM OR INCHES)

This function can be used to switch the unit of the display of the memory hand control from centimetres to inches and vice versa. The table height itself is not changed by this function.

Simultaneously press the **memory position buttons 1, 2** and the button **Table top up**. Hold the button combination for approx. 3 seconds. Then release the buttons.

The display shows **S and a number**, e.g. **S 7**.

Press the button **Table top up** until the display shows **S 5**.

The display shows **S 5**.

Press the **memory button**.
If the display was previously set to cm, it is now set to inches.
If the display was previously set to inches, it is now set to cm

NOTICE	The menu has a time-out of 5 seconds, which means that the menu is closed automatically and without saving the settings if no entry is made within 5 seconds.

NOTICE	When the menu appears, the display shows **S and a number**, e.g. **S 7**. The number depends on the parameters of the control.

10.9 CHANGING THE NUMBER OF MOTORS

NOTICE	The factory settings are 2 motors for the SMARTneo.
⚠DANGER	**Only skilled technical staff** This function must be carried out only by skilled technical staff. An incorrect number of motors can lead to damage to the table.
NOTICE	A hand control with display and memory buttons is required for this procedure.

In order to change the settings, you must proceed as follows:

Simultaneously press the **memory position buttons 1, 2** and the button **Table top up**. Hold the button combination for approx. 3 seconds. Then release the buttons.

The display shows **S and a number**, e.g. **S 5**.

Press the button **Table top up** until the display shows S 8.

The display shows **S 8**..

Press the **memory button.**
The display now shows the currently set number of motors (1 or 2)

Press the button **Table top down** in order to reduce the number of motors. The lowest possible number is 1.

or

Press the button **Table top up** in order to increase the number of motors. The highest possible number is 2.
The display now shows the selected number of motors.

Press the memory button to confirm the setting.

When **000** flashes on the display, a manual reset is necessary. This process is explained in Chapter 9.4.

NOTICE

The menu has a time-out of 5 seconds, which means that the menu is closed automatically and without saving the settings if no entry is made within 5 seconds.

NOTICE

When the menu appears, the display shows **S and a number**, e.g. **S 5**. The number depends on the parameters of the control.

10.10 CONTROL SYSTEM TO FACTORY SETTINGS RESET (S0 MENU)

1

2

▲

Simultaneously press the **memory position buttons 1, 2** and the button **Table top up**. Hold the button combination for approx. 3 seconds. Then release the buttons.

The display shows **S and a number**, e.g. **S 5**.

▲

Press the button **Table top up** until the display shows **S 0**.

The display shows **S 0**.

SAVE

Press the **memory button**.
The control is reset to factory settings. The control is now in the same state is during the first start-up.

NOTICE

The menu has a time-out of 5 seconds, which means that the menu is closed automatically and without saving the settings if no entry is made within 5 seconds.

NOTICE

When the menu appears, the display shows **S and a number**, e.g. **S 5**. The number depends on the parameters of the control.

⚠DANGER	**Reset to factory settings** If the drives in a system are replaced, the control system must first be reset to the factory settings and a manual reset carried out without fail.

If a hand control is used with only one up and down button each, proceed as follows:

Disconnect the power supply of the SMARTneo and wait at least 5 seconds.

▼ & ▲ While the control is disconnected from the power supply, simultaneously press the buttons **Table top up** and **Table top down**. Keep holding this button combination.

▼ & ▲ Keep holding this button combination **Table top down** and **Table top up** while you connect the control to the power supply.

▼ & ▲ Keep holding this button combination **Table top down** and **Table top up** until the control starts to click twice every second. Release both buttons as long as the control click twice every second.

The control is reset to factory settings. The control is now in the same state is during the first start-up.

⚠DANGER	**Reset to factory settings** If the drives in a system are replaced, the control system must first be reset to the factory settings and a manual reset carried out without fail.

11 COLLISION PROTECTION

11.1 INTELLIGENT SYSTEM PROTECTION (ISP)

ISP (Intelligent System Protection) is a collision protection system that LOGICDATA has developed according to the newest state of the technology. It reduces damage to the system in case of a collision.

NOTICE	The sensitivity and the achievable switch-off threshold of ISP depend on the entire system (mechanical and electrical components). In order to determine the ISP suitability of a height-adjustable table, contact LOGICDATA.
NOTICE	For optimal function of the collision protection ISP, please note the following requirements: In order to ensure the best possible collision protection, a mechanical brake must be integrated that is effective on the down movement of the height-adjustable workplace.
NOTICE	Without a mechanical brake, a reduced shutdown sensitivity with a loaded table must be expected. With an unloaded table top, the collision protection ISP also effective even without the brake.
NOTICE	As soon as the collision protection ISP has braked the height-adjustable table top, the first movement of the table top can only be in the opposite direction after the collision protection ISP action (not in the direction with which the collision protection ISP was triggered).
NOTICE	The switch-off threshold of the ISP can be set with parameters.

11.2 DRIVE BACK

NOTICE	The function Drive back is active only if collision protection (ISP, sensor unit) is activated.

The table top changes its position automatically after a safety function (through the collision protection **ISP** or sensor unit) in order to a defined distance in the opposite direction. This prevents a possible crushing hazard immediately.

⚠DANGER	**Increased safety risk** In exceptional cases however, there can be a crushing hazard despite the collision protection since not only the motor control unit is responsible for the motor shutdown, but the interoperation of mechanical equipment and electronics. Furthermore, the shutdown sensitivity is influenced by mechanical equipment, motor and environmental conditions. LOGICDATA as control manufacturer can therefore not completely rule out this residual risk and does not assume and liability.

12 MAINTENANCE

SMARTneo is maintenance-free for the entire service life. If cleaning should be necessary, wipe the housing of SMARTneo with a soft, dry cloth.

13 FAULT REMOVAL

With technical problems, contact our support at:

Tel.: +43 (0)3462 5198 0
Fax: +43 (0)3462 5198 1030
E-mail: office.at@logicdata.net

Always provide the product name and the revision status according to the rating plate with any support request. In case of a defect, replace the SMARTneo as a whole.

13.1 POSSIBLE MALFUNCTIONS AND THEIR REMEDY

Problem	Possible cause	Remedy
Drives does not work	Power supply cable not plugged in	Plug in the power supply cable of motor control unit
	Drives not connected	Plug the motor cable into the motor control unit
	Poor plug contact	Plug in motor cable, power supply cable and hand control properly
	Motor control unit defective	Contact the customer service
	Hand control defective	Replace the hand control
Drives running in one direction only	Electricity failure during the run or power supply cable disconnected during the run	Manual reset*)
	Motor control unit defective	Contact the customer service
	Hand control defective	Replace the hand control
	Drive defective	Contact the customer service
Motor control unit or hand control does not work	Power supply cable not plugged in	Plug in the power supply cable of motor control unit
	Hand control not plugged in	Plug in the hand control
	Motor control unit defective	Contact the customer service
	Mains cable defective	Contact the customer service
	Hand control defective	Replace the hand control
	Poor plug contact	Plug the plug in properly
	Contact with liquids	Replace the hand control

*) If drives move only down

13.2 ERROR MESSAGES ON THE DISPLAY OF THE HAND CONTROL

Problem	Cause	Remedy
The display shows HOT.	The motor control unit SMARTneo is equipped with overheating protection. This overheating protection at activated because of overheating.	Wait until the motor control unit has cooled off and the message HOT on the display goes out. The motor control unit SMARTneo is then operational again.
The display shows E and an error number.	There is an internal motor control unit SMARTneo error.	Proceed according to the following error list.

Number	Description	Remedy
00	Internal error channel 1	Switch off the motor control unit. Contact the customer service.
01	Internal error channel 2	
12	Defect channel 1	Disconnect the motor control unit. Remedy the external short circuit. **or** Plug in the correct motor at the affected bushing. Put the motor control unit into operation again.
13	Defect channel 2	
24	Overcurrent motor M1	Remove the clamped objects from the travel range. Table overload -> Remove the load from the table. Contact the customer service.
25	Overcurrent motor M2	
48	Overcurrent motor group 1	
60	Collision protection	
62	Overcurrent of the control	
36	Plug detection at motor bushing M1	Plug in the correct motor at the affected bushing. Carry out a manual reset.
37	Plug detection at motor bushing M2	
61	Motor replaced	
55	Synchronisation of motor group 1 not possible	Remove the load from the table. Carry out a manual reset. If the error is still displayed after the manual reset, contact the customer service.
60	Collision protection	Remove the clamped objects from the travel range. Table overload -> Remove the load from the table. Contact the customer service.
71	Changing the anti-pinch configuration	Refer to the DMS sensor manual in order to activate or deactivate the anti-pinch configuration
67	Voltage too high	Disconnect the power supply cable and contact the customer service.

70	Change of the drive configuration	Disconnect the power supply for 5 seconds. Connect the required motors and plug the power supply back in. Carry out a manual reset.
81	Internal error	Carry out a manual reset. Disconnect the power supply cable and plug it back in after a few seconds. If this error occurs regularly, disconnect the power supply cable and contact the customer service.
93	Connection error in cascaded combination The error is shown for 15 seconds on the display; the control then switches to the reset mode with flashing display **000**, if necessary.	Check all cable connections and try to carry out a drive reset. If the drive reset is not possible, disconnect the power supply of all controls. Wait for at least 5 sec. and connect all controls with the power supply again. Try to carry out the drive reset again. If a drive reset is still not possible, contact the customer service.

NOTICE	**The PowerFail Detection** detects power failures and saves all relevant data before the voltage drops below a critical level. In a few exceptional cases, this saving is not possible and during the next start-up of the control, E81 is displayed and the control clicks three times. Remedial of this error requires a manual reset (see Chapter 9.4).

NOTICE	If there is a power failure during the vertical adjustment or if the mains cable is unplugged, a manual reset may be necessary.

13.3 CLICK-CODES

As soon as the SMARTneo is supplied with current, the control uses the installed relays to inform the user acoustically about the system status as well as the reason for the last shut-off. The following table shows how the number of clicks correlates with the different information.

Number of clicks	Status information
2x	**Normal operation:** The system is working without problems
1x	**Emergency operation:** The system is in emergency operation mode, the drives cannot be used. Check the LEDs and/or the error code on the display of the hand control.
3x – 6x	**Last shut-off incomplete / forced reset:** Check the error code on the display of the manual switch. If the control could not complete a data savings process before e.g. there was a power failure, it will click 4–5 times during renewed commissioning and go into the reset mode, but without displaying the error code 81 in this case.

14 ADDITIONAL INFORMATION

14.1 TECHNICAL SPECIFICATIONS

You can find the technical data of your motor control unit in the corresponding data sheet.

14.2 DISPOSAL

The SMARTneo is an electrical and electronic device which must be disposed of separately from household trash in accordance with the WEEE guideline 2012/19/EU. The products are labelled with the symbol shown on the left.

Before the disposal of materials and components, check their recyclability. Recycle all parts, if possible.

Dispose of all materials and parts according local guidelines and regulations. Ensure that the disposal is lastingly compatible for humans and nature.

MOTION FOR YOUR LIFE

LOGICDATA
Electronic & Software Entwicklungs GmbH
Wirtschaftspark 18
8530 Deutschlandsberg
Austria

Phone: +43 (0)3462 5198 0
Fax: +43 (0)3462 5198 1030
E-mail: office.at@logicdata.net
Internet: http://www.logicdata.net

LOGICDATA North America, Inc.
1525 Gezon Parkway SW, Suite C
Grand Rapids, MI 49509
USA

Phone: +1 (616) 328 8841
E-mail: office.na@logicdata.net

www.logicdata.net