

SMARTneo-2G SMARTneo-3G

Operating Manual





SMARTneo-2G and SMARTneo-3G - Operating Manual

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1 GENERAL INFORMATION

Documentation for the SMARTneo-2G / SMARTneo-3G consists of this Operating Manual and several other documents (Other applicable documents, page 5). Read all documentation before assembling or operating the table system. Keep all documentation for as long as the product is in your possession. Ensure that all documentation is provided to subsequent owners. Go to www.logicdata.net for more information and support. This Manual may change without notice. The most recent version is available on our website.

1.1 OTHER APPLICABLE DOCUMENTS

This Operating Manual assumes that the reader has read the following documents

- Datasheet and Operating Manual for the installed Actuator(s)
- Datasheet and Operating Manual for the installed User Interface (Hand Control or other)
- Datasheet and Operating Manual (if applicable) for any installed accessory products
- SMARTneo-2G Cascading Manual (applies also to SMARTneo-3G), if a Cascading System is to be installed

1.2 COPYRIGHT

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1.3 ROYALTY-FREE USE OF IMAGES AND TEXT

After purchase and full payment of the product, all text and images in Chapter 2 “Safety”, may be used free of charge by the customer for 10 years after delivery. They should be used to prepare end user documentation for Height-Adjustable Table Systems. The license does not include logos, designs, and page layout elements belonging to LOGICDATA. The Reseller may make any necessary changes to the text and images to adapt them for the purpose of end user documentation. Texts and images may not be sold in their current state and may not be published or sublicensed digitally. The transfer of this license to third parties without permission from LOGICDATA is excluded. Full ownership and copyright of the text and graphics remain with LOGICDATA. Texts and graphics are offered in their current state without warranty or promise of any kind. Contact LOGICDATA to obtain text or images in an editable format (documentation@logicdata.net).

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2 SAFETY

2.1 TARGET AUDIENCE

This Operating Manual is intended for Skilled Persons only. Refer to Chapter 2.8 Skilled Persons on page 10 to ensure that personnel meet all requirements.

2.2 GENERAL SAFETY REGULATIONS

In general, the following safety regulations and obligations apply when handling the product:

- Do not operate the SMARTneo-2G or SMARTneo-3G unless it is in a clean and perfect condition
- Do not remove, change, bridge, or bypass any protection, safety, or monitoring equipment
- Do not convert or modify any components without written approval from LOGICDATA
- In the event of malfunction or damage, any faulty components must be replaced immediately
- Unauthorized repairs are prohibited
- Do not attempt to replace hardware unless the system is in a de-energized state
- Only skilled persons are allowed to work on the SMARTneo-2G and SMARTneo-3G
- Ensure that national worker protection conditions and national safety and accident prevention regulations are observed during operation of the system

2.3 INTENDED USE

The SMARTneo-2G / SMARTneo-3G is a Control Box for electrically Height-Adjustable Tables. It is intended for indoor use only. The system may only be installed in compatible Height-Adjustable Tables and with LOGICDATA approved accessories. Contact LOGICDATA for further details. Use beyond or outside the intended use will void the product's warranty. Please refer to the Operating Manual of each product in the Table System to determine its individual intended use.

The installation site must be level, vibration-free, and free from contamination. It must be ensured that there is no extraordinary exposure through dust, toxic or caustic gases and vapours, or through inadmissible heat exposure at the installation site.

2.4 REASONABLY FORESEEABLE MISUSE

Usage outside of the intended use of the SMARTneo-2G or SMARTneo-3G could lead to minor injuries, serious injuries, or even death. Reasonably foreseeable misuse of the system includes, but does not extend to:

- Using the system as a climbing or lifting aid for people or animals
- Connecting unauthorized products to the SMARTneo-2G or SMARTneo-3G. If you are unsure as to whether a product can be used with the SMARTneo-2G or SMARTneo-3G, contact LOGICDATA for further information
- Overloading the Table System



2.5 EXPLANATION OF SYMBOLS AND SIGNAL WORDS

Safety Notices contain both symbols and signal words. The signal word indicates the severity of the hazard.

 **DANGER** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

 **WARNING** Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

 **NOTICE** Indicates a situation which, if not avoided, could result in damage to the product through electrostatic discharge (ESD).

NOTICE Indicates a situation that will not lead to personal injury, but could lead to damage to the device or the environment.

 **INFO** Indicates the protection class of the device: Protection Class III.
Protection Class III devices may only be connected to SELV or PELV power sources.

INFO Indicates important tips for handling the product.

2.6 LIABILITY

LOGICDATA products comply with all currently applicable health and safety regulations. However, risk can result from incorrect operation or misuse. LOGICDATA is not liable for damage or injury caused by:

- Improper product use
- Disregard of the documentation
- Unauthorized product alterations
- Improper work on and with the product
- Operation of damaged products
- Wear parts
- Improperly performed repairs
- Unauthorized changes to the operating parameters
- Disasters, external influence, and force majeure

The information in this Operating Manual describes the characteristics of the product without assurances. Resellers assume responsibility for the LOGICDATA products installed in their applications. They must ensure their product complies with all relevant directives, standards, and laws. LOGICDATA shall not be held liable for any damage that is directly or indirectly caused by the delivery or use of this document. Resellers must observe the relevant safety standards and guidelines for each product in the Table System.



2.7 RESIDUAL RISKS

Residual risks are the risks that remain after all relevant safety standards have been complied with. These have been evaluated in the form of a risk assessment. Residual risks associated with the installation of the CBIpaddle Family handsets are listed here and throughout this Operating Manual. The risks associated with the system as a whole are listed in the System Manual. See also Chapter 1.1 Other Applicable Documents on page 5. The symbols and signal words used in this Operating Manual are listed in Chapter 2.5 Explanation of Symbols and Signal Words on page 7.



WARNING Risk of death or serious injury through electric shocks

The SMARTneo-2G and SMARTneo-3G are electrical devices. Basic safety precautions must be taken at all times. Failure to observe electrical safety precautions may lead to death or serious injury through electric shocks.

- Never open the SMARTneo-2G / SMARTneo-3G or its components
- Ensure that the SMARTneo-2G / SMARTneo-3G is not connected to the mains during assembly
- Ensure that the SMARTneo-2G / SMARTneo-3G is supplied with the mains voltage specified on the Type Plate
- Do not convert or modify the SMARTneo-2G / SMARTneo-3G in any way
- Do not place the Cable of the SMARTneo-2G / SMARTneo-3G on heated surfaces
- Do not immerse the SMARTneo-2G / SMARTneo-3G or its components in liquid. Clean only with a dry or slightly damp cloth
- Check the housing and cables of the SMARTneo-2G / SMARTneo-3G for visible damage. Do not install or operate damaged products



WARNING Risk of death or serious injury in explosive atmospheres

Operating the system in potentially explosive atmospheres may lead to death or serious injury through explosions.

- Do not operate the system in potentially explosive atmospheres



WARNING Moderate risk of serious injury through electric shocks

While cleaning or using the system, liquid intrusion may lead to serious injury through electric shocks.

- Do not allow any components to become wet during cleaning
- Ensure components are placed away from areas where spillages are likely to occur
- Take care not to spill liquids onto or around the system



-
- ! WARNING** **Moderate risk of serious injury through electric shocks**
Inserting incorrect cables into the SMARTneo-2G / SMARTneo-3G may lead to death or serious injury through electric shocks.
- Ensure only LOGICDATA-approved products are connected to the SMARTneo-2G / SMARTneo-3G
 - Do not insert incompatible cables into the SMARTneo-2G / SMARTneo-3G
 - Do not attempt to force cables into the incorrect plug ports
-
- ! CAUTION** **Risk of minor or moderate injury through unexpected movement**
Exceeding the static or dynamic load limits of the Table System may cause unexpected operation. This may lead to minor or moderate injury.
- Do not exceed load limits
-
- ! CAUTION** **Risk of minor or moderate injury through crushing**
If any Hand Control Key becomes stuck while the system is in motion, the system may not stop properly. This may lead to minor or moderate injury through crushing.
- Disconnect the system immediately if any Hand Control Key becomes stuck
-
- ! CAUTION** **Risk of minor or moderate injury through tripping**
During the assembly process, you may have to step over Cables. Tripping over Cables may lead to minor or moderate injury.
- Ensure that the assembly area is kept clear of unnecessary obstructions
 - Be careful not to trip over Cables
-
- ! CAUTION** **Risk of minor or moderate injury through unexpected movement**
Errors in the product's hardware or software may cause the Table System to move unexpectedly. This may lead to minor or moderate injury.
- Disconnect the system immediately if the table moves unexpectedly
-
- ! CAUTION** This appliance can be used by children from 8 years and above and people with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of the appliance in a safe way and understand the hazards involved. Children must not play with the appliance. Cleaning and maintenance by the user must not be performed by children, unless they are over 8 years old and supervised.
-



2.8 SKILLED PERSONS

⚠ CAUTION Risk of injury through incorrect installation

Only Skilled Persons have the expertise to complete the installation process safely. Installation by unskilled persons can lead to minor or moderate personal injury.

- Ensure that only Skilled Persons are allowed to complete the installation
- Ensure that persons with limited ability to react to danger do not take part in the assembly process

The table system may only be assembled by Skilled Persons. A Skilled Person is defined as someone who:

- Is authorized for installation planning, installation, commissioning, or maintenance/servicing of the product
- Has read and understood the Table System documentation, as well as the documentation relevant to the component products of the system
- Has the technical education, training, and/or experience to perceive risks and avoid hazards
- Has knowledge of the specialist standards applicable to the product
- Has the expertise to test, assess, and manage electrical and mechatronic products and systems in accordance with the generally accepted standards and guidelines of electrical engineering and furniture manufacturing

2.9 NOTES FOR RESELLERS

Resellers are companies that purchase LOGICDATA products for installation in their own products.

INFO For reasons of EU conformity and product safety, Resellers should provide end users with an Operating Manual in their native EU official language

INFO The Charter of the French Language (La charte de la langue française) or Bill 101 (Loi 101) guarantees the right of the population of Quebec to conduct business and commercial activities in French. The bill applies to all products sold and used in Quebec. For table systems that will be sold or used in Quebec, Resellers must provide all product-relevant texts in French. These include, but are not limited to

- Operating Manuals
- All other product documentation, including datasheets
- Inscriptions on the product (such as labels), including those on product packaging
- Warranty certificates

The French inscription may be accompanied with a translation or translations, but no inscription in another language may be given greater prominence than that in French.

INFO Operating Manuals must include all the safety instructions that end users require to handle the product safely. They must also include an instruction to always keep the Operating Manual in the immediate vicinity of the product.



INFO	No unauthorized persons (young children, persons under the influence of medications, etc.) should be allowed to handle the product.
INFO	Resellers must perform a risk assessment on their product that covers residual hazards. It must include measures to mitigate risk, or reference the product's Operating Manual.
INFO	If you transport the SMARTneo without its packaging and/or before it has been securely mounted to the Table Top, ensure that measures are in place to protect the Collision Sensor. If this is damaged, Intelligent System Protection may not work properly

3 SCOPE OF DELIVERY

The scope of delivery for the SMARTneo-2G / SMARTneo-3G consists of the following components:

1	SMARTneo-2G / SMARTneo-3G Control Box
---	---------------------------------------



Fig. 1: SMARTneo-2G / SMARTneo-3G Control Box

All other components required for assembly are to be provided by the Reseller unless otherwise stated by LOGICDATA. Cables and Mounting Screws are not included in the scope of delivery.

4 PRODUCT

The SMARTneo-2G / SMARTneo-3G is a Control Box for height-adjustable tables. There are variants of the SMARTneo-2G / SMARTneo-3G for specific domestic mains power supplies (e.g. EU or US). The exact variant is denoted by the product's order code. Consult the accompanying Datasheet to ensure that you have received the correct variant. The functions your SMARTneo-2G / SMARTneo-3G Control Box can fulfil is also dependent on parameterization (see Chapter 8 Software Dependent Functions).



4.1 KEY PRODUCT FEATURES

4.1.1 PLUG PORTS AND CONNECTIONS

You must read the full product documentation of each product you are connecting to the SMARTneo-2G / SMARTneo-3G to ensure correct assembly and the safety of all users. Fig. 2 shows all the plug ports and connections featured in the SMARTneo-2G / SMARTneo-3G.

The SMARTneo-2G / SMARTneo-3G has connection points for the following product types:

- Actuators
- Hand Controls
- Power Input (Mains or Battery Pack)
- Communication cable (Cascading)

1	Hand Control Port (HC) with DIN connector on SMARTneo-2G or with RJ-45 connector on SMARTneo-3G
2	AC Input Port (Power Cable)
3	DC/Com Port
4	Motor Port 1 (M1)
5	Motor Port 2 (M2)

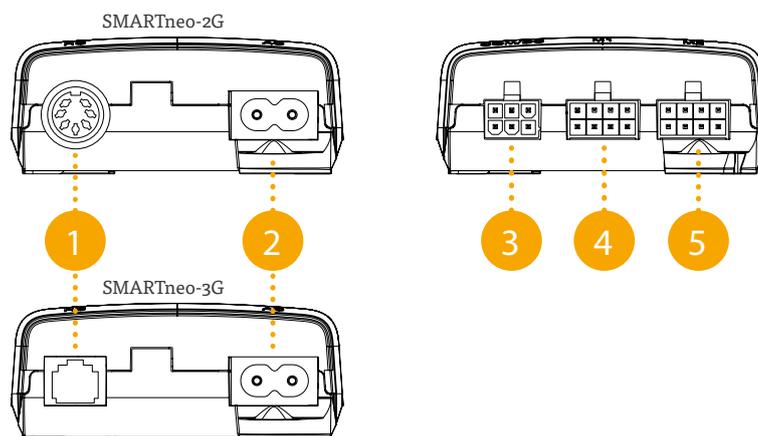


Fig. 2: SMARTneo-2G / SMARTneo-3G Connection Points



4.2 DIMENSIONS

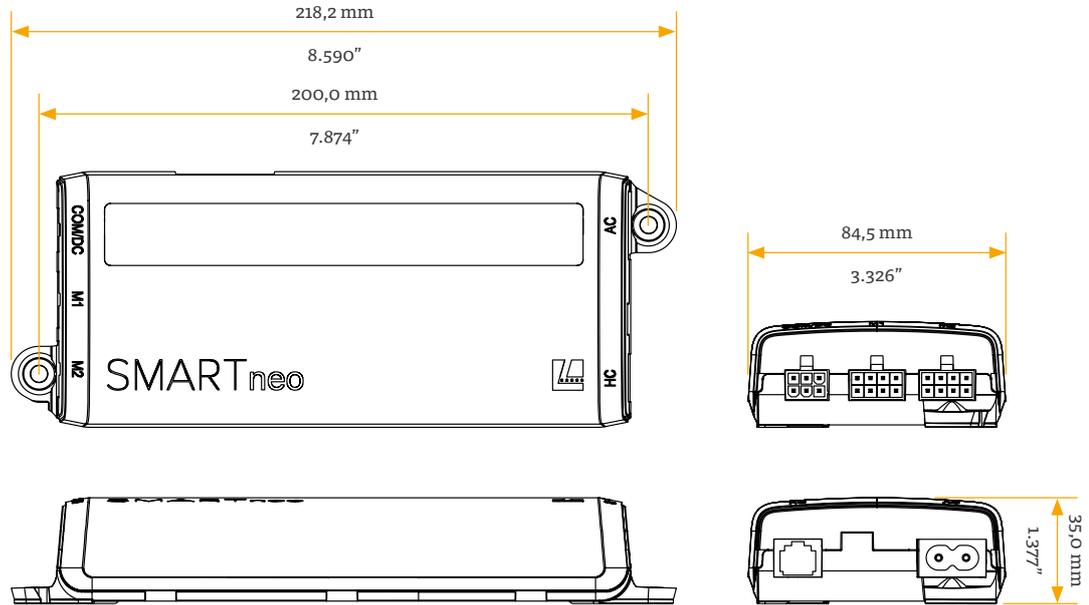


Fig. 3: Dimensions SMARTneo-2G / SMARTneo-3G

4.2.1 DRILLING TEMPLATE

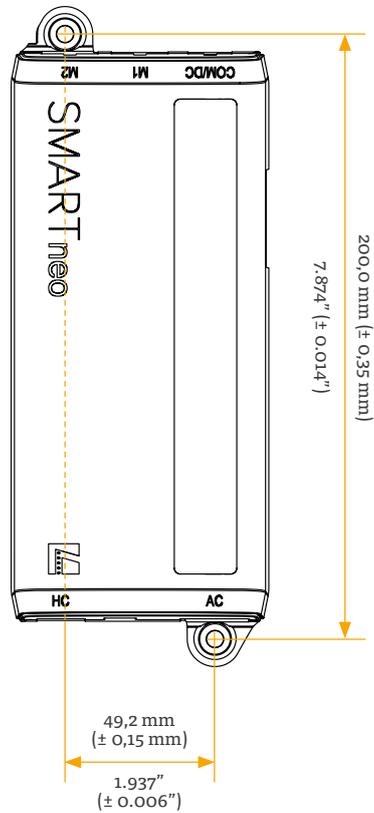


Fig. 4: Drilling Template SMARTneo-2G / SMARTneo-3G



The mounting points for the SMARTneo-2G and SMARTneo-3G have a diameter of 5,5 mm. The drilled holes must be 200 mm (lengthways) and 49,2 mm (widthways) apart. The entire housing of the SMARTneo-2G and SMARTneo-3G must be underneath the table.

5 ASSEMBLY

This chapter of the Operating Manual describes the process of mounting the SMARTneo-2G and SMARTneo-3G to the Table Top. You must read the documentation for each part of the system (Actuator, User Interface, Power Unit, etc.) for that product's mounting instructions. Instructions for connecting the system's components to the SMARTneo-2G and SMARTneo-3G can be found in Chapter 6, Connecting the System).

5.1 SAFETY DURING ASSEMBLY

-
- ⚠ CAUTION** **Risk of minor or moderate injury through improper handling**
Improper handling of the product during assembly may lead to minor or moderate injury through cutting, pinching, and crushing.
- Avoid contact with sharp edges
 - Be careful while handling tools that may cause personal injury
 - Ensure assembly complies with the generally accepted standards and guidelines of electrical engineering and furniture manufacturing
 - Read all instructions and safety advice carefully.
-

- ⚠ CAUTION** **Risk of minor or moderate injury through tripping**
During assembly and operation, poorly routed Cables may become a trip hazard. Tripping over Cables may lead to minor or moderate injury Tripping over Cables may lead to minor or moderate injury.
- Ensure that Cables are routed properly to avoid trip hazards
 - Be careful not to trip over Cables when installing the Hand Control
-

- ⚡ NOTICE** Ensure proper ESD handling during assembly. Damage that can be attributed to electrostatic discharge will void warranty claims.
-

NOTICE Before assembly, all parts must be acclimatised to the ambient conditions.

NOTICE Perform a product risk assessment so that you can respond to potential residual hazards. Assembly instructions must be included in your end user Operating Manual.



5.2 REQUIRED COMPONENTS

1	SMARTneo-2G or SMARTneo-3G Control Box
2	Mounting Screws (supplied by reseller)
4-5	Cable Clamps (supplied by Reseller)
Tool	Drill or Drilling Machine
Tool	Screwdriver

INFO The mounting points for the SMARTneo-2G / SMARTneo-3G have a diameter of 5,5 mm. The Mounting Screws should hold the SMARTneo-2G / SMARTneo-3G safely and securely in place. Exact specifications can be provided by LOGICDATA on request.

INFO Strained or loose Cables may lead to insecure connections. Insecure connections may cause ISP malfunctions (such as false triggers) and lead to system damage. LOGICDATA recommends the use of Cable Clamps to ensure Cables are kept in place during movement of the Table Top. Cable Clamps are provided by the Reseller. Exact specifications can be provided by LOGICDATA on request.

5.3 PROCESS

WARNING Moderate risk of serious injury through electric shocks

While using the SMARTneo-2G / SMARTneo-3G, liquid intrusion may lead to serious injury through electric shocks.

- Ensure components are placed away from areas where spillages may occur
- Take care not to spill liquids onto or around the Control Box.

NOTICE LOGICDATA does not restrict customers to specific mounting positions for the SMARTneo-2G / SMARTneo-3G. However, mounting the Control Box incorrectly may cause the collision detection system to malfunction. To ensure correct installation, all Table Tops must be tested thoroughly (different materials, thicknesses, etc.). Additionally:

- Ensure there is no gap between the SMARTneo-2G / SMARTneo-3G and the Table Top at the mounting points. The Control Box must be tightly secured with no movement possible.
- Ensure the mounting surface is smooth, flat, and undamaged.
- Ensure the entire housing of the SMARTneo-2G / SMARTneo-3G is placed underneath the Table Top.
- Ensure the Control Box is installed and used within the ambient conditions specified in the product datasheet.
- Use Cable Clamps to secure connections and reduce the risk of ISP malfunction.
- If the collision detection system is not working properly, contact LOGICDATA.



NOTICE LOGICDATA recommends using the drilling template on page 13 to mark the positions of the Mounting Screws. If you choose not to do so, pay close attention to the dimensions of the SMARTneo-2G / SMARTneo-3G.

1. Position the SMARTneo-2G / SMARTneo-3G under the table top and mark the position of the drilling holes. If necessary, use the Drilling Template on page 13 to help you.
2. Drill the holes into the table top.
3. Use the screwdriver and 2 Mounting Screws to attach the SMARTneo-2G / SMARTneo-3G to the Table Top at the drilled holes.
4. Attach Cable Clamps roughly 10 cm from any Plug Port that will be used (Fig.5).

NOTICE Required tightening torque depends on the material of the Table Top. Do not exceed 2 Nm.

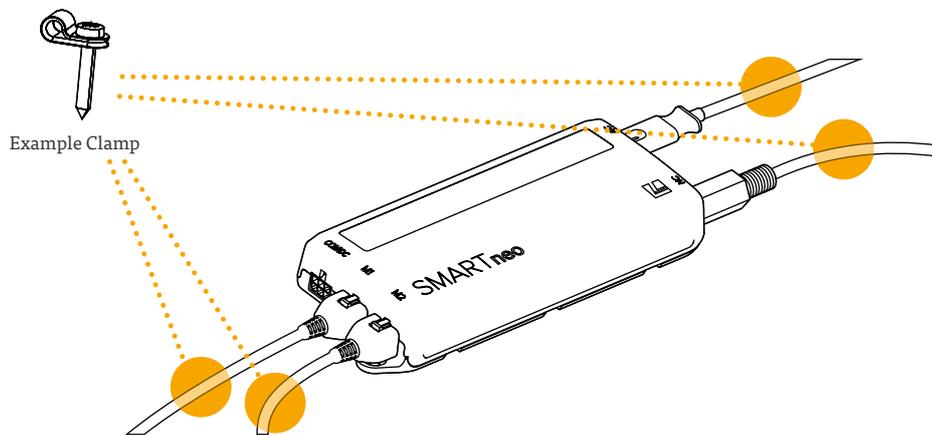


Fig. 5: Positioning the Cable Clamps

5.4 COMPLETING ASSEMBLY

After the SMARTneo-2G / SMARTneo-3G is attached to the Table Top, you must connect the Control Box to the system. Instructions for this can be found in the next chapter.



6 CONNECTING THE SYSTEM



WARNING Moderate risk of death or serious injury through electric shocks

Connecting the system incorrectly can lead to death or serious injury through electric shocks.

- Ensure that the supplied voltage complies with the SMARTneo-2G / SMARTneo-3G's type plate
- Ensure all components are connected to the correct sockets
- Do not use unauthorized accessory parts or cables
- Disconnect the SMARTneo-2G / SMARTneo-3G from the power outlet before removing or connecting any components
- Connect the system to the Mains only after all other components (Actuators, User Interfaces, etc.) have been connected to the SMARTneo-2G / SMARTneo-3G



WARNING Moderate risk of death or serious injury through electric shocks

Using damaged products may lead to death or serious injury through electric shocks.

- Do not use the SMARTneo-2G / SMARTneo-3G if you see the housing or cables are damaged



NOTICE

Ensure proper ESD handling during assembly. Damage that can be attributed to electrostatic discharge will void warranty claims.

INFO

Perform a product risk assessment so that you can respond to potential residual hazards. Assembly instructions must be included in your end user Operating Manual.

6.1 SYSTEM CONFIGURATION

The SMARTneo-2G / SMARTneo-3G can be used to create a variety of Table Systems. This Manual describes the connection of table systems in which only one Control Box will be connected. For Table Systems with more than one Control Box, refer to the SMARTneo-2G Cascading Manual (applies also to SMARTneo-3G) for assembly and safety advice. This Manual describes Table Systems that will be powered using mains electricity. For usage with other types of power source, refer to the Manual of the chosen product.

6.1.1 REQUIRED COMPONENTS: SYSTEM WITH 1 ACTUATOR

1	SMARTneo-2G or SMARTneo-3G Control Box
1	Actuator
1	User Interface (see Chapter 6.3)
1	Mains Cable (2-pin connection, C7)



6.1.2 REQUIRED COMPONENTS: SYSTEM WITH 2 ACTUATORS

1	SMARTneo-2G or SMARTneo-3G Control Box
2	Actuators
1	User Interface (see Chapter 6.3)
1	Mains Cable (2-pin connection, C7)

6.2 CONNECTING ACTUATORS

Plug the Actuator(s) into the designated Plug Port(s) on the SMARTneo-2G / SMARTneo-3G (M1/M2 [optional]).

NOTICE Ensure that the Actuator(s) have been safely assembled into the Height-Adjustable Columns before connecting. Refer to the Actuator's Manual to avoid system damage.

NOTICE If you are connecting two Actuators to the SMARTneo-2G / SMARTneo-3G, you must connect the M1 Plug Port before the M2 Port.

6.3 CONNECTING USER INTERFACES

Plug the User Interface into the designated Plug Port on the SMARTneo-2G / SMARTneo-3G (HC).

INFO Your Table System must be controlled using a SMARTneo-2G / SMARTneo-3G-compatible User Interface. A User Interface is a general term that covers Hand Controls (Basic and Comfort) and other products that can control the System. Assembly and Operation differ depending on which type of User Interface will be installed. Unless otherwise stated, the instructions in this Operating Manual assume that the user has installed a Table System alongside a Comfort or Basic Hand Control. If you have purchased a SMARTneo-2G / SMARTneo-3G for use alongside a different User Interface, you are obliged to read the Operating Manual of your chosen User Interface in full.

6.4 CASCADING

Cascading is the process of connecting two SMARTneo-2G / SMARTneo-3G Control Boxes together in order to control extra Actuators. Consult the SMARTneo-2G Cascading Manual (applies also to SMARTneo-3G) for further instructions and safety advice.



6.5 CONNECTION VIA THE DC/COM PORT (OPTIONAL)

The DC/COM interface of the SMARTneo-2G / SMARTneo-3G may only be used to connect compatible, certified, LOGICDATA approved external devices. The external device must have a current-limiting component in its output circuit (e.g. a fuse) to limit the maximum current to 10 A. Contact LOGICDATA for instructions and safety advice.

6.6 CONNECTING TO THE MAINS

- ⚠ WARNING** **Moderate risk of death or serious injury through electric shocks**
Connecting the SMARTneo-2G / SMARTneo-3G to the mains incorrectly may lead to death or serious injury through electric shocks.
- Ensure the mains voltage is compliant with the voltage specified on the SMARTneo-2G / SMARTneo-3G's Type Plate
 - Do not attempt to force or bend connectors

1. Plug the Power Cable into the AC Plug Port of the SMARTneo-2G / SMARTneo-3G
2. Connect the Power Cable to the mains.

6.7 PERFORMING A POSITION RESET PROCEDURE

- ⚠ CAUTION** **Risk of minor or moderate injury through crushing**
Collision Detection (ISP) is inactive during start-up and reset processes. This may lead to minor or moderate injury through crushing.
- Ensure that no persons or objects are in the table's range of motion

- NOTICE** Operating the table system when it is not properly connected can damage the product.
- Ensure all Cables are properly connected
 - Ensure that all required Actuators are ready to be operated
 - Do not operate the Table System until it is properly connected

The Position Reset Procedure is used to align the position of the Actuators within the Table System. You must perform a Position Reset Procedure before using the SMARTneo-2G / SMARTneo-3G for the first time.

It is possible to perform a Position Reset Procedure with all types of compatible User Interface. However, this section describes performing a Position Reset Procedure for Table Systems controlled by a Hand Control with an UP Key and DOWN Key (Comfort or Basic Hand Controls).

If your SMARTneo-2G / SMARTneo-3G is operated by a different User Interface, consult that product's operating Manual for instructions on performing a Position Reset Procedure.



	<ol style="list-style-type: none"> 1. Press and hold the DOWN Key until the table stops at the lower position limit
	<ol style="list-style-type: none"> 2. Release the DOWN Key
	<ol style="list-style-type: none"> 3. Press and hold the DOWN Key again <ul style="list-style-type: none"> ▶ The table will move down slightly, then up again
	<ol style="list-style-type: none"> 4. Release the DOWN Key <ul style="list-style-type: none"> ▶ The Position Reset Procedure is complete.

INFO If your SMARTneo-2G / SMARTneo-3G has been parameterized with additional stopping points (e.g. a Container Stop Position), repeat Step 3 until the table has moved upwards again.

6.8 CONFIGURATION EXAMPLE

1	SMARTneo-2G / SMARTneo-3G Control Box
2	Actuators
3	User interface (see Chapter 6.3)
4	Mains cable

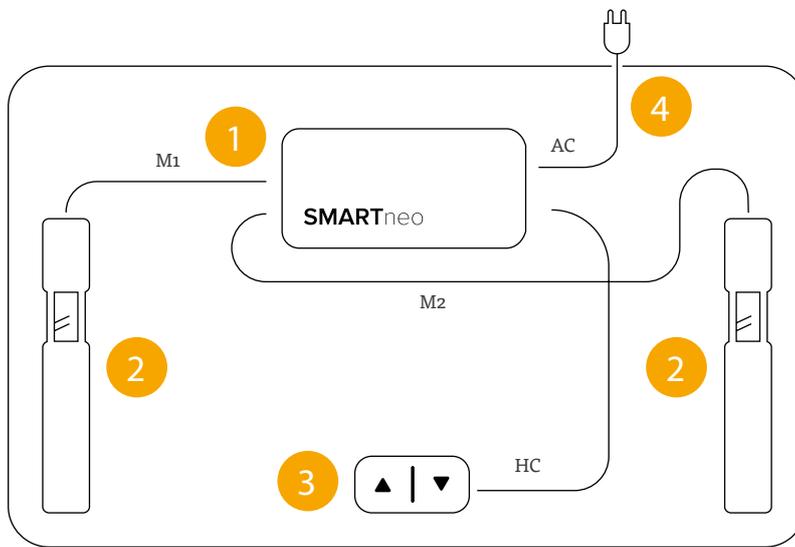


Fig. 6: Configuration Example SMARTneo-2G / SMARTneo-3G



7 OPERATION

⚠ CAUTION Risk of minor or moderate injury through uncontrolled movement
The table may not always stop exactly at the expected position. Failure to anticipate the table's movements may lead to minor or moderate injury through crushing. Wait until the system has completely stopped before attempting to use the table

⚠ CAUTION Risk of minor or moderate injury through unsecured objects
While the table moves up and down, unsecured objects may fall off the table and onto body parts. This may lead to minor or moderate injury through crushing.

- Ensure loose objects are kept away from the edge of the table
- Do not leave unnecessary objects on the table during movement

This section of the Operating Manual contains instructions for operating the Table System. All instructions assume the reader has assembled a Table System that will be controlled by a Hand Control with an UP Key and DOWN Key. If your Table System is operated by a different User Interface, consult that product's operating Manual for instructions on operating the Table System. The availability of some functions depends on the Hand Control used. This section describes two variants:

- Comfort Hand Controls - These products have a digital display and can save Memory Positions
- Basic Hand Controls - These products have only an UP and DOWN key

Hand Control Keys are represented as follows for further description:

	UP Key
	DOWN Key
	SAVE Key (Comfort Hand Controls only)
	Memory Position Key 1 (Comfort Hand Controls only)
	Memory Position Key 2 (Comfort Hand Controls only)
	Memory Position Key 3 (Comfort Hand Controls only)
	Memory Position Key 4 (Comfort Hand Controls only)



7.1 ADJUSTING THE TABLE TOP HEIGHT

- ⚠ CAUTION Risk of minor or moderate injury through crushing**
Your fingers may be crushed when you attempt to change the height of the table.
- Keep fingers away from moving parts
 - Ensure that no persons or objects are in the table's range of motion

- ! INFO** The Table Top will move up or down until the UP or DOWN Key is released, or if a pre-defined stopping point has been reached.

To move the Table Top UP:



Press and hold the **UP Key** until the desired height has been reached

To move the Table Top DOWN:



Press and hold the **DOWN Key** until the desired height has been reached

7.2 SAVING A MEMORY POSITION

7.2.1 USING A BASIC HAND CONTROL

This function saves a set Table Top position. One "Stand" Memory Position can be saved in the top half of the range of movement, one "Sit" Memory Position in the bottom half.



1. Move the table to the desired height (Chapter 7.1, Adjusting the Table Top height)



2. Press and hold the **UP Key** and **DOWN Key** simultaneously ("S" Key if available)



3. Press the **UP Key** to Save a Standing Position or the **DOWN Key** to Save a Sitting Position.
▶ The Memory Position is saved

To delete a Memory Position with a Basic Hand Control, move to the Memory Position you wish to delete and repeat steps 2 and 3.



7.2.2 USING A COMFORT HAND CONTROL

This function saves a set Table Top position. One Memory Position can be saved per Memory Position Key.

	1. Move the table to the desired height (Chapter 7.1, Adjusting the Table Top height)
	2. The display shows the Table Top height (e.g. 73 cm)
	▶ Press the SAVE Key .
	▶ Press the Memory Position Key (e.g. 2)
	▶ The display shows S 2
	▶ After about two seconds, the Table Top height is displayed again

7.3 ADJUSTING THE TABLE TO A MEMORY POSITION

7.3.1 USING A BASIC HAND CONTROL

Version A (without double-click function):

	<ol style="list-style-type: none"> 1. Press and hold the UP or DOWN Key to move the table in the direction of the position you wish to reach (upwards for “Stand”, downwards for “Sit”). <ul style="list-style-type: none"> ▶ The Table Top will stop for 2 seconds when the Memory Position is reached. If you release the Key before the Memory Position is reached, the table will stop. To continue movement, keep holding the UP or DOWN Key until the table moves again.
---	---

Version B (Auto-Movement with double-click function):

INFO	The double-click function is available only for SMARTneo-2G / SMARTneo-3G Control Boxes sold in US markets. It is an option configured by LOGICDATA only on request.
INFO	If you press any Key while the table moves to a Memory Position, the Table Top will stop moving immediately. To continue, you must select the Memory Position again.



! WARNING Risk of minor or moderate injury through unauthorized modifications

The control system firmware is supplied in Europe with the double-click function disabled. After enabling this functionality the safety of the end product must be evaluated.

- A risk assessment to demonstrate conformity to the requirements of Machinery Directive 2006/42/EC is required prior to use.
- LOGICDATA is not liable for injuries or damage caused by activating the double-click function.



1. Double-click the **UP** or **DOWN Key** to move the table in the direction of the position you wish to reach (upwards for “Stand”, downwards for “Sit”).
 - ▶ The table will move to the Memory Position. You do not have to hold the Key. Press any Key during Auto-Movement to stop the table from moving.

7.3.2 USING A COMFORT HAND CONTROL

Version A (without double-click function):

2	1. Press and hold the required Memory Position Key (e.g. 2).
	2. The Table Top will move until the saved Table Top height has been reached. If you release the Key before the Memory Position is reached, the table will stop
2	▶ Release the Memory Position Key
73	▶ The display shows the Table Top height (e.g. 73 cm)

Version B (Auto-Movement with double-click function):

INFO	The double-click function is available only for SMARTneo-2G / SMARTneo-3G Control Boxes sold in US markets. It is an option configured by LOGICDATA only on request.
INFO	If you press any Key while the table moves to a Memory Position, the Table Top will stop moving immediately. To continue, you must select the Memory Position again.



! WARNING Risk of minor or moderate injury through unauthorized modifications

The control system firmware is supplied in Europe with the double-click function disabled. After enabling this functionality the safety of the end product must be evaluated.

- A risk assessment to demonstrate conformity to the requirements of Machinery Directive 2006/42/EC is required prior to use.
- LOGICDATA is not liable for injuries or damage caused by activating the double-click function.

2	1. Double-click the required Memory Position Key (e.g. 2).
	2. The table will move to the Memory Position. You do not have to hold the Key
7 3	▶ The display shows the Table Top height (e.g. 73 cm)

8 SOFTWARE-DEPENDENT FUNCTIONS

8.1 LOW SPEED AREA

During movement, this function causes a reduction in speed before the following positions are reached:

- Maximum and minimum Table Top height
- All saved positions (e.g. Memory Positions, Container Stop Position)

! CAUTION Risk of minor or moderate injury through crushing

Collision Detection (ISP) is inactive in the Low Speed Area. This may lead to minor or moderate injury through crushing.

- Ensure that no persons or objects are in the table's range of motion



8.2 SAFETY AREA

This function causes a safety stop at a defined Table Top height, which is set through the product's software.

INFO You cannot save table positions that fall within the safety area.

! CAUTION **Risk of minor or moderate injury through crushing**
Collision Detection (ISP) is inactive in the Safety Area. This may lead to minor or moderate injury through crushing.

- Ensure that no persons or objects are in the table's range of motion

	<ol style="list-style-type: none"> 1. Press and hold the DOWN Key <ul style="list-style-type: none"> ▶ The Table Top is adjusted to the start of the Safety Area ▶ The Table Top stops moving when the Safety Area is reached
	<ol style="list-style-type: none"> 2. Press the DOWN Key again to move into the Safety Area

8.3 FACTORY RESET (SO RESET)

With this function, you can reset the SMARTneo-2G / SMARTneo-3G to its factory settings.

8.3.1 USING A BASIC HAND CONTROL

SMARTNEO-2G

	<ol style="list-style-type: none"> 1. Disconnect the Control Box from the mains. 2. While disconnected, press and hold the UP and DOWN Keys 3. Reconnect the Control Box. Hold the Keys until the Control Box clicks twice per second.
	<ol style="list-style-type: none"> 4. Release the UP and DOWN Keys <ul style="list-style-type: none"> ▶ The SMARTneo-2G has now been reset to its factory settings. It is now in the same state as it was during the first start-up.

SMARTNEO-3G

	<ol style="list-style-type: none"> 1. Press 3x DOWN followed by 1x UP and 1x DOWN with an approximate delay of half a second between the press and release of the button each time. <ul style="list-style-type: none"> ▶ The SMARTneo-3G has now been reset to its factory settings. It is now in the same state as it was during the first start-up.
--	---



8.3.2 USING A COMFORT HAND CONTROL

	<ol style="list-style-type: none"> Press and hold the following Keys for 3 seconds: <ul style="list-style-type: none"> Memory Position Keys 1 and 2 UP Key
	<ul style="list-style-type: none"> ▶ The display shows S and a number (e.g. S 4)
	<ol style="list-style-type: none"> Press the DOWN Key until the display shows S o.
	<ul style="list-style-type: none"> ▶ The display shows S o.
	<ol style="list-style-type: none"> Press the SAVE Key.
	<ul style="list-style-type: none"> ▶ The SMARTneo-2G / SMARTneo-3G has now been reset to its factory settings. It is now in the same state as it was during the first start-up.

8.4 CONTAINER STOP AND SHELF STOP POSITIONS

These features can limit the movement area of the Table Top (if e.g. a container is below the table or a shelf is above it). Container Stop Positions become the new lowest end position, Shelf Stop Positions the highest.

INFO

Container Stop Positions can only be saved only in the lower half of the movement area, Shelf Stop Positions in the upper half. You must set each position separately.

8.4.1 USING A BASIC HAND CONTROL

To Save a Container Stop or Shelf Stop Position:

	<ol style="list-style-type: none"> Press the UP or DOWN Key to move the Table Top to the desired position.
	<ol style="list-style-type: none"> Press and hold the UP Key and DOWN Key for 10 seconds. <ul style="list-style-type: none"> ▶ The Container Stop / Shelf Stop Position is saved (Container Stop if you are in the bottom half of the movement area, Shelf Stop if you are in the top half).



To Delete a Container or Shelf Stop Position:

	1. Press the UP or DOWN Key to move the Table Top to the top half (to delete a Shelf Stop Position) or bottom half (Container Stop Position) of the movement area.
	2. Press and hold the UP Key and DOWN Key for 10 seconds. <ul style="list-style-type: none"> ▶ The Container Stop / Shelf Stop Position is deleted (Container Stop if you are in the bottom half of the movement area, Shelf Stop if you are in the top half).

8.4.2 USING A COMFORT HAND CONTROL

To Save a Container Stop or Shelf Stop Position:

	1. Press the UP or DOWN Key to move the Table Top to the desired position.
	2. Press and hold the SAVE Key for 10 seconds. <ul style="list-style-type: none"> ▶ The Control Box will click twice. ▶ The Container Stop / Shelf Stop Position is saved.

To Delete a Container or Shelf Stop Position:

	1. Press the UP or DOWN Key to move the Table Top to the top half (to delete a Shelf Stop Position) or bottom half (Container Stop Position) of the movement area.
	2. Press and hold the SAVE Key for 10 seconds. <ul style="list-style-type: none"> ▶ The Control Box will click once. ▶ The Container Stop / Shelf Stop Position is deleted.

8.5 CORRECTING THE HEIGHT DISPLAY

This feature changes the height displayed on the Hand Control. It does not affect the table's actual height.

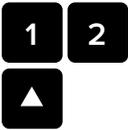
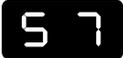
	1. Press the SAVE Key .
	▶ The display shows S -.
	2. Press and hold the DOWN Key for approximately 5 seconds.
	▶ The display starts to flash.
	▶ Use the UP Key or DOWN Key to set the new height.



	▶ Press the SAVE Key .
	▶ The height display is now set to the new Table Top height (e.g. 73 cm).

8.6 CHANGING THE DISPLAYED UNIT OF MEASUREMENT (CM / INCH)

Comfort Hand Controls can display the height of the Table Top in both centimeters and inches. To change the displayed unit of measurement:

	<ol style="list-style-type: none"> Press and hold the following Keys for 3 seconds: <ul style="list-style-type: none"> Memory Position Keys 1 and 2 UP Key
	▶ The display shows S and a number (e.g. S 7)
	2. Press the DOWN Key until the display shows S 5.
	▶ The display shows S 5.
	<ol style="list-style-type: none"> Press the SAVE Key. <ul style="list-style-type: none"> ▶ 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.

8.7 DUTY CYCLE MONITORING

Duty Cycle Monitoring causes a system shutdown when the maximum Duty Cycle is reached. The Duty Cycle limits can be found in the product's Datasheet.



9 ACTUATOR SETUP

9.1 PLUG DETECTION

The SMARTneo-2G and SMARTneo-3G feature Plug Detection. This means that the Control Box recognizes when an Actuator is connected to the M1 or M2 Plug Port and when an Actuator has been removed or replaced. If an Actuator has been removed from Plug Port 1 or 2, the Control Box will click three times. If a Comfort Hand Control is installed, the error code E36, E37, or E38 will be shown, depending on which Actuator was removed.

When an Actuator has been removed or replaced, the process you need to follow differs depending on how the Control Box will continue to be used. Options are as follows:

- If you wish to change the type of LOGICDATA SLIMdrive connected to the Control Box (e.g. for SLIMdrive-660s to SLIMdrive-500), but you do not want to change the number of connected SLIMdrives, go to Chapter 9.2, SLIMdrive Detection: Changing to a Different SLIMdrive Type.
- If you wish to change the number of LOGICDATA SLIMdrives connected to the Control Box, go to Chapter 9.3, Auto Detect: Changing the Number of SLIMdrives.
- If you wish to change the number of Actuators (any type) to the Control Box, go to Chapter 9.4, Changing the Number of Actuators (other).
- If you wish to continue with the same type and number of Actuators, proceed as follows:
 1. Disconnect the Control Box from the mains and wait for 10-15 seconds
 2. Reconnect the missing Actuators to Plug Ports M1/M2 (optional)
 3. Reconnect the Control Box to the mains
 4. Perform a Position Reset Procedure (Chapter 6.7)
 - ▶ You can now use the table system as normal

9.2 SLIMDRIVE DETECTION: CHANGING TO A DIFFERENT SLIMDRIVE TYPE

NOTICE Ensure that the Actuator(s) have been safely assembled into the Height-Adjustable Columns before connecting. Refer to the Actuator's Manual to avoid system damage.

With certain parameterization, the SMARTneo-2G and SMARTneo-3G can automatically detect which type of SLIMdrive is connected at the Plug Ports M1/M2 (i.e. SLIMdrive-660s or SLIMdrive-500). Proceed as follows to change the type of LOGICDATA SLIMdrives connected to the Control Box:



1. Perform a Factory Reset (Chapter 8.3)
2. Disconnect the Control Box from the mains and wait for 10-15 seconds
3. Disconnect the existing SLIMdrives from the Plug Ports M1/M2 (optional)
4. Connect the new type of SLIMdrive to the Plug Ports M1/M2 (optional)
5. Reconnect the Control Box to the mains
 - ▶ The error code E70 will appear on the Hand Control
6. Perform a Position Reset Procedure (Chapter 6.7)
 - ▶ You can now use the table system as normal

9.3 AUTO-DETECT: CHANGING THE NUMBER OF SLIMDRIVES

NOTICE In Cascading Systems, this process will only affect the Actuators attached to the master Control Box. Refer to the Cascading Manual to avoid system damage.

NOTICE Auto-Detect settings depend on the parameterization of the Control Box. Contact LOGICDATA before attempting to change the table configuration.

The Control Box can automatically detect how many SLIMdrives are connected to the system. This means that you can change the number of SLIMdrives the Control Box must control without changing the parameterization of the control box. To change the number of SLIMdrives to be controlled:

1. Perform a Factory Reset (Chapter 8.3)
2. Disconnect the Control Box from the mains and wait for 10-15 seconds
3. Connect/Disconnect SLIMdrives at Plug Ports M1/M2 until you have the desired number.
4. Reconnect the Control Box to the mains
 - ▶ The error code E70 will appear on the Hand Control
5. Perform a Position Reset Procedure (Chapter 6.7)
 - ▶ You can now use the table system as normal

9.4 CHANGING THE NUMBER OF ACTUATORS (OTHER)

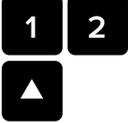
 **CAUTION Risk of injury through incorrect installation**
Only Skilled Persons have the expertise to complete this process safely. Installation by unskilled persons can lead to minor or moderate personal injury or system damage.

- Ensure that only Skilled Persons are allowed to complete the installation.
- Refer to Chapter 2.8 to ensure that personnel meet all requirements.

NOTICE The menu has a timeout of 5 seconds. If no entry is made in this time, it will close without saving settings.



This function allows you to manually change the number of Actuators that the Control Box will control. Proceed as follows to manually change these settings.

	<ol style="list-style-type: none"> Press and hold the following Keys for 3 seconds: <ul style="list-style-type: none"> Memory Position Keys 1 and 2 UP Key
	<ul style="list-style-type: none"> ▶ The display shows S and a number (e.g. S 5)
	<ol style="list-style-type: none"> Press the UP Key until the display shows S 8.
	<ul style="list-style-type: none"> ▶ The display shows S 8.
	<ol style="list-style-type: none"> Press the SAVE Key. <ul style="list-style-type: none"> ▶ The display will show the currently detected number of motors (1 or 2).
	<ol style="list-style-type: none"> Press the DOWN Key to reduce the number of Actuators (Minimum 1). Press the UP key to increase the number of Actuators.(Maximum 2). <ul style="list-style-type: none"> ▶ The display will show the selected number of Actuators.
	<ol style="list-style-type: none"> Press the SAVE Key to confirm the changes to settings.
	<ol style="list-style-type: none"> When 000 flashes on the display, perform a Factory Reset (Chapter 8.3)



10 TROUBLESHOOTING

10.1 POSSIBLE PROBLEMS AND THEIR SOLUTIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
The Table does not move	The system is not plugged in	Ensure that the system has been connected correctly
	The Actuator is not connected properly	Ensure that the Actuator is properly connected to all components of the system
	Poor plug connection	Ensure that all plugs have been connected properly
	The Actuator is defective	Replace the Actuator. Contact LOGICDATA if the problem persists
	The User Interface is defective	Replace the User Interface. Contact LOGICDATA if the problem persists
The Table only moves downwards	There was power failure while the table was in motion	Perform a Position Reset Procedure (see Chapter 6.7 Performing a Position Reset Procedure)
	The Power Unit was disconnected while the device was in motion	
	Realignment required	
	The Actuator is defective	Replace the Actuator. Contact LOGICDATA if the problem persists
The User Interface does not work	The User Interface is defective	Replace the User Interface. Contact LOGICDATA if the problem persists
	The User Interface is not connected properly	Ensure that the User Interface is properly connected to the Control Box



10.2 CLICK CODES

As soon as the Control Box is connected, the control box uses installed relays to inform the user about system status and the reason for the last shutdown:

CLICKS	MESSAGE
2x	Normal operation: The system is working normally.
1x	Emergency operation: The system is in emergency operation mode. The actuator cannot be used. Check the error code.
3-6x	Last shut-off incomplete / forced reset: Check the error code. If the control box could not complete a data-saving process before power was lost, it will click 4-5 times during its next start-up and go into reset mode. Error code 81 will not be shown in this case.

10.3 ERROR MESSAGES ON THE DISPLAY

When a Comfort Hand Control is installed, error messages are displayed on the digital display panel.

SIGNAL	MESSAGE	REQUIRED ACTIONS
  The display shows "Hot" or „System Pause“.	Overheating protection has been activated. Duty cycle possibly exceed.	Wait for the overheated components to cool.
 The display shows an error number.	An internal error has occurred.	Read the table below to find the correct response to the error code shown.

CODE	MESSAGE	REQUIRED ACTIONS
	Internal Error Channel 1	Disconnect the Control Box from the Mains. Contact LOGICDATA for further information.
	Internal Error Channel 2	



E 12	Defect Channel 1	Disconnect the Control Box from the Mains. Fix the external short circuit. Ensure all cables are connected correctly. Reconnect the system, then operate as normal.
E 13	Defect Channel 2	
E24	Overcurrent Motor M1	Check that nothing is blocking the table's range of movement. Remove excess load from the table. Contact LOGICDATA for further information.
E25	Overcurrent Motor M2	
E48	Overcurrent Motor Group	
E36	Plug detected in M1	Plug in the correct motor. Ensure all cables are connected correctly. Perform a Factory Reset. Perform a Position Reset Procedure.
E37	Plug detected in M2	
E55	Sync Error, Motor Group	Remove excess load from the table. Perform a Factory Reset. Contact LOGICDATA.
E62	Stop due to power output control	Check that nothing is blocking the table's range of movement. Remove excess load from the table. Contact LOGICDATA for further information.
E60	ISP Activated	Release all Keys and wait for the Drive Back function to be completed.
E61	Motor Replaced	Plug in the correct motor. Ensure all cables are connected correctly. Perform a Factory Reset. Perform a Position Reset Procedure.
E65	Overcurrent while driving	Check that nothing is blocking the table's range of movement. Remove excess load from the table. Contact LOGICDATA for further information.
E67	High Voltage Detected	Disconnect the Control Box from the Mains. Contact LOGICDATA for further information.



E70	Motor Configuration Changed	Disconnect the Control Box from the Mains. Connect the Actuators in the desired setup. Perform a Factory Reset. Perform a Position Reset Procedure. Read Chapter 9, "Actuator Set-up", for advice on changing Actuator types.
E71	Collision Sensor Defective	Perform a Factory Reset. Contact LOGICDATA if the problem persists.
E72	Position Error (Middle Switch*)	Disconnect the Control Box from the Mains. Wait for at least 20 seconds. Reconnect and perform a Position Reset Procedure.
E73	Middle Switch* Defective	Disconnect the Control Box from the Mains. Contact LOGICDATA for further information.
E81	Internal Error	Disconnect the Control Box from the Mains. Restart and perform a Factory Reset. Contact LOGICDATA for further information if the problem persists.
E90	Cascading error (slave)	Check all connections. Attempt a Position Reset Procedure. If this is not possible, disconnect all Control Boxes from the Mains and try again. Contact LOGICDATA for further information if the problem persists.
E91		
E92		
E93	Connection Error During Cascading	

NOTICE Do not operate the table system if problems persist. Contact LOGICDATA for further information.

NOTICE The Middle Switch is only fitted to certain versions of the Control Box. Contact LOGICDATA if you are unsure which version you have.



11 ADDITIONAL INFORMATION

Technical data for the Control Box and all other products in the Table System can be found in each product's corresponding datasheet.

11.1 DISASSEMBLY

To disassemble the Table System, first disconnect the Control Box from the mains. Then, follow the assembly instructions in reverse order.

11.2 COLLISION DETECTION

11.2.1 INTELLIGENT SYSTEM PROTECTION

Intelligent System Protection (ISP) is LOGICDATA's collision detection system. It aims to reduce the risk of system damage when using LOGICDATA products. When a collision is detected, all Actuators stop immediately and move back in the opposite direction for a few seconds (see 11.2.2 Drive Back Function). The SMARTneo-2G features integrated collision detection function via the Light Barrier sensor, and SMARTneo-3G via gyroscope. No external sensors are required. The following points must be observed regarding the ISP function.

- ISP sensitivity and ISP shutdown values depend on the complete system (mechanical and electronic components). Contact LOGICDATA to determine the ISP suitability of your Table System.
- After ISP is activated, the next movement of the system can only be in the opposite direction.
- ISP shutdown values can be adjusted in the parameters of the Control Box. Contact LOGICDATA for further details.

11.2.2 DRIVE BACK FUNCTION

After ISP is triggered, the Table Top automatically moves a defined distance in the opposite direction.



11.2.3 DISABLING SENSOR DETECTION (S3 MENU)

INFO In Cascading Systems, you must perform this function in single mode for each Control Box in the system.

INFO This process is “resistant” to the Factory Reset. This means that resetting to Factory Settings will not affect the on/off status of the sensor.

In certain assembly variants, it may not be possible to achieve accurate readings from the integrated sensor. In this case, it is possible to manually switch the ISP sensor on and off. LOGICDATA does not recommend using the Control Box without a functioning ISP sensor. To avoid system damage, the ISP sensor should only be switched off when absolutely necessary, and only with prior approval from LOGICDATA.

To enable or disable the ISP sensor:

	<p>1. Press and hold the following Keys for 3 seconds:</p> <ul style="list-style-type: none"> • Memory Position Keys 1 and 2 • UP Key
	<p>▶ The display shows S and a number (e.g. S 5)</p>
	<p>2. Press the UP Key until the display shows S 3.</p>
	<p>▶ The display shows S 3.</p>
	<p>3. Press the SAVE Key.</p> <p>▶ The display will show the current off/on status of the ISP sensor (1 for on, 0 for off.).</p>
	<p>4. Select the desired off/on status of the ISP sensor (1 for on, 0 for off.) with the UP or DOWN Key.</p>
	<p>5. Press the SAVE Key to confirm the changes to settings.</p> <p>▶ The Control Box will click twice.</p>
	<p>6. Perform a Position Reset Procedure to complete the change (Chapter 6.7)</p>



11.3 MAINTENANCE

The Control Box is maintenance free for its entire service lifetime. If cleaning is required, wipe the housing with a soft, dry cloth.



WARNING Moderate risk of serious injury through electric shocks

While cleaning or maintaining the Control Box, liquid intrusion may lead to serious injury through electric shocks.

- Do not allow any components to become wet during cleaning
- Only use a soft, dry cloth to clean the Control Box
- Ensure components are placed away from areas where spillages are likely to occur
- Take care not to spill liquids onto or around the Control Box

11.4 DISPOSAL



Before disposing 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.



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