

DYNAMIC MOTION **system**

DMD500

Manual





DMD500 - Operating Manual

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LOGICDATA Electronic & Software Entwicklungs GmbH

Wirtschaftspark 18
8530 Deutschlandsberg
Austria

Phone: +43 (0) 3462 51 98 0
Fax: +43 (0) 3462 51 98 1030
Internet: <http://www.logicdata.net>
Email: office.at@logicdata.net



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1 GENERAL INFORMATION

Documentation for the DMD500 consists of this Operating Manual and several other documents (Other applicable documents, page 5). Assembly personnel must read all documentation before starting assembly. Keep all documentation for as long as the products 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 is part of the documentation required to safely assemble and operate the DYNAMIC MOTION SYSTEM (DM System). Other applicable documents include:

- DYNAMIC MOTION System Manual
- Datasheet and Operating Manual for the installed User Interface (Handset or other)
- Datasheet and Operating Manual for the installed Power Unit

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 Texts and images may not be sold in their current state, and may not be published or sublicensed digitally.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 9 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 product 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, faulty components must be replaced immediately
- Unauthorized repairs are prohibited
- Do not attempt to replace hardware unless the product is in a de-energized state
- Only Skilled Persons are allowed to work on the DMD500
- 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 DMD500 is a Spindle Actuator for electrically Height-Adjustable Tables. It is installed by Resellers in a Height-Adjustable Column for electrically Height-Adjustable Tables. It is controlled by an integrated Control Unit. 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 DM System to determine its individual intended use.

2.4 REASONABLY FORESEEABLE MISUSE

Usage outside of the intended use for each product may lead to minor injury, serious injury, 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 parts to the product. If you are unsure as to whether a part can be used with the DMD500, contact LOGICDATA for further information
- Overloading the Table System (see below)

NOTICE






Load limits are defined as follows:

- Maximum Static Force: **1200 N**
- Maximum Pull Force on the Actuator: **150 N**

Permissible loads refer only to the DMD500. They do not account for additional loads. Resellers must include information about maximum permissible loads in the documentation for their final product.

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.

2.5 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 en-



sure 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.

2.6 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 assembly and installation of the DMD500 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 DMD500 is an electrical device. Although you will not have to connect the device to the Power Unit during assembly, 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 DMD500 or its components
- Ensure that the DMD500 is not connected to the Power Unit during assembly
- Do not convert or modify the DMD500 in any way
- Do not immerse the DMD500 or its components in liquid. Clean only with a dry or slightly damp cloth
- Do not place the Cable of the DMD500 on heated surfaces
- Check the housing and cables of the DMD500 for visible damage. Do not install or operate damaged products.

WARNING Risk of death or serious injury through electric shocks



The DMD500 is a Protection Class III device. It may only be supplied with safety extra-low voltage (SELV). Supplying the DMD500 with the incorrect voltage may lead to death or serious injury through electric shocks.

- Only supply the DMD500 with safety extra-low voltage (SELV)
- Read the product's Type Plate for exact voltage specifications

WARNING Risk of death or serious injury in explosive atmospheres

Operating the DMD500 in potentially explosive atmospheres may lead to death or serious injury through explosions.

- Read the relevant directives to determine if an atmosphere is potentially explosive
- Do not operate the DMD500 in potentially explosive atmospheres

CAUTION Risk of minor or moderate injury through unexpected movement

Attempting to operate the DMD500 before it is properly mounted may cause unexpected operation. This may lead to minor or moderate injury.

- Do not operate the DMD500 until it is properly mounted
- Read the DM System Manual for safety advice during operation

**CAUTION****Risk of minor or moderate injury through unexpected movement**

Exceeding the static or dynamic load limits of the DMD500 may cause unexpected operation. This may lead to minor or moderate injury.

- See [page 6](#) and read the product's Datasheet to determine the relevant load limits
- Do not exceed load limits

2.7 SKILLED PERSONS

**CAUTION****Risk of injury through incorrect assembly**

Only Skilled Persons have the expertise to complete the assembly process safely. Assembly by Unskilled Persons may lead to minor or moderate injury.

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

The DMD500 may only be assembled by Skilled Persons. A Skilled Person is defined as someone who:

- Is authorized for installation planning, installation, commissioning, or servicing of the product
- Has read and understood all documentation relevant to the DM System and its component products
- 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

2.8 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

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

Permissible loads and speeds refer to the DMD500. Resellers must take additional loads (friction, torque loads, deadweight of the table) into account. [See page 6.](#)

3 SCOPE OF DELIVERY

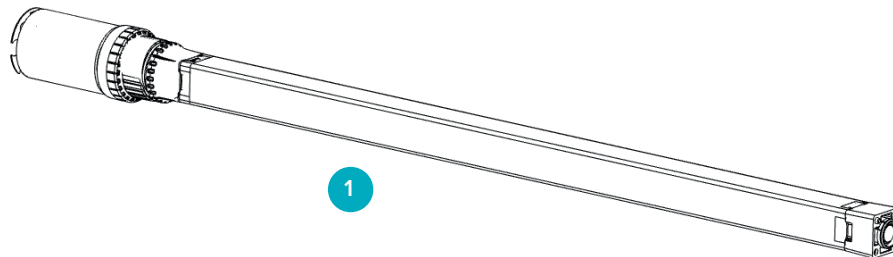


Fig. 1: Scope of Delivery

The standard scope of delivery for the DMD500 consists of the following components:

1	DMD500 Linear Actuator
---	------------------------

The Top Plate Mounting Screws must be ordered from LOGICDATA separately.

All other components required for assembly, e.g. the Top Plate, Bottom Plate, and the Bottom Plate Mounting Screws are to be provided by the Reseller unless otherwise stated by LOGICDATA.

4 UNPACKAGING



NOTICE

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

The DMD500 is packaged in cardboard. To unpackage the product:

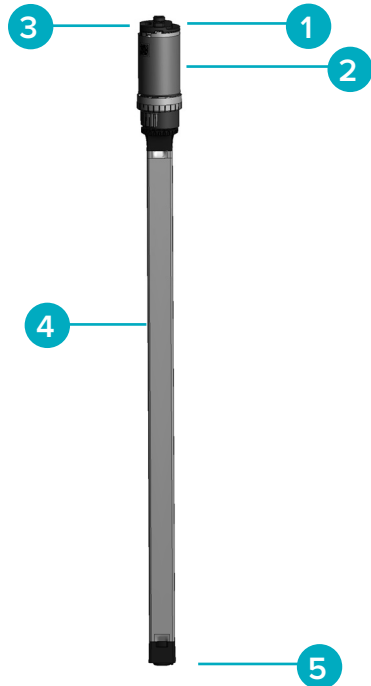
1. Remove all components from the packaging
2. Check the contents of the package for completeness and damage
3. Provide the Operating Manual to the operating personnel
4. Dispose of the packaging material

NOTICE

Dispose of the packaging material in an environmentally friendly manner. Remember to separate plastic parts from the cardboard packaging.



5 PRODUCT



1	Motor End Attachment Point
2	Motor and Control Unit
3	Cable
4	Spindle System
5	Mounting Point Support Tube

5.1 ACTUATOR DIMENSIONS

Fig. 2 shows the dimensions of the DMD500 in its reset position, installation position, and extended position.

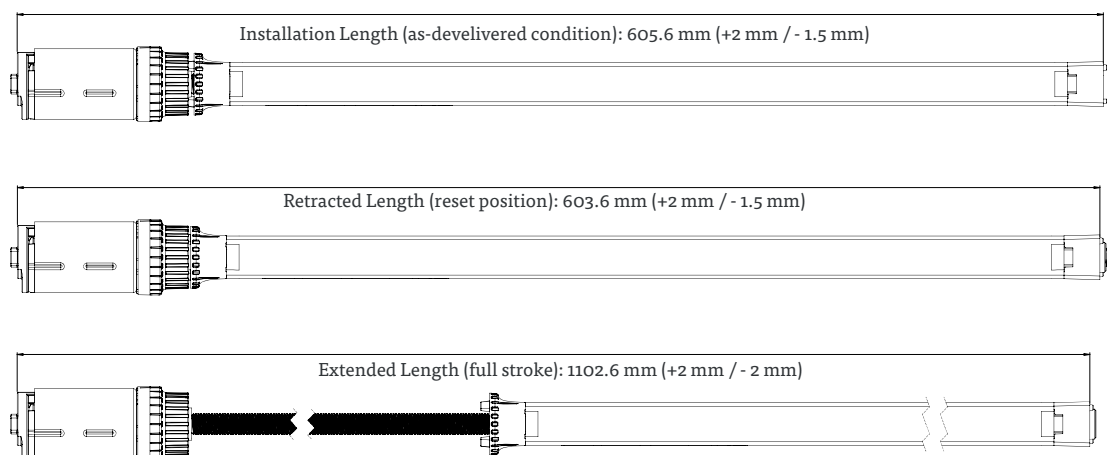





Fig. 2: Actuator Dimensions

6 PRE-ASSEMBLY

6.1 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. <ul style="list-style-type: none"> • Avoid contact with sharp edges • 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. <ul style="list-style-type: none"> • Ensure that Cables are routed properly to avoid trip hazards • Be careful not to trip over Cables when assembling the DMD500
 NOTICE	Ensure proper ESD handling during assembly. Damage that can be attributed to electrostatic discharge will void warranty claims.
NOTICE	To avoid damage to the product, measure the dimensions of the DMD500 before assembly. Use a gauge or other suitable measuring equipment to do this.
NOTICE	Before assembly, all parts must be acclimatised to the ambient conditions.
NOTICE	Ensure the Height-Adjustable Column is a sufficient length. The DMD500 must reach its final position before the Column is fully extended.
NOTICE	Non-standard Spindle settings may only be applied with approval from LOGICDATA.
NOTICE	Do not lift the DMD500 by its cable. This will cause irreparable damage to the product.
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.



6.2 ASSEMBLY VARIANTS

There are two assembly variants for the DMD500. The variant you require depends on the type of Height-Adjustable Column that the Actuator will be installed in. These are defined as follows:

- “Thick Tube Up”: The Tube with the largest diameter is at the top (Table Top).
- “Thick Tube Down”: The Tube with the largest diameter is at the bottom (floor).

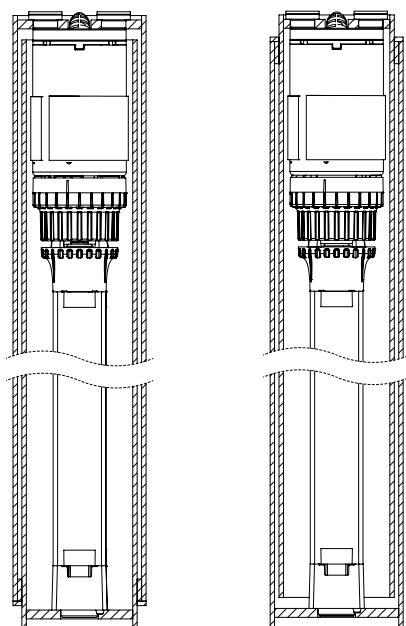


Fig. 3: “Thick Tube Up” (left) and “Thick Tube Down” (right) in their retracted positions



NOTICE	In both installation variants, the inner diameter of the Inner Tube must be wide enough that an all-round air gap of 3 mm between the inner wall of the Inner Tube and the DMD500 is guaranteed.
NOTICE	Height-Adjustable Columns must be designed so that the Motor End of the DMD500 always faces up and Spindle End faces down.
NOTICE	In order to function properly, Height-Adjustable Columns must comply with the tolerances specified by LOGICDATA. Failure to comply will void all warranty claims. Information on tolerances is published by LOGICDATA on request.



7 ASSEMBLY

This chapter of the Operating Manual describes the process of assembling the DMD500 and installing it into the Height-Adjustable Column. You must read the documentation for each part of the system (User Interface, Power Hub, etc.) for that product's mounting instructions, and the System Manual for instructions on connecting the system. The process shown in this chapter assumes the DMD500 is to be installed in a Height-Adjustable Column in which the top plate can be removed (i.e. it is not permanently connected to the Tube closest to the Table Top). Contact LOGICDATA for instructions and safety advice on mounting the actuator into other types of Height-Adjustable Columns.

7.1 STEP 1 - INSERTING THE ACTUATOR

At this step, the DMD500 Actuator is inserted into the Height-Adjustable Columns

7.1.1 REQUIRED COMPONENTS

1	Height Adjustable Column
2	DMD500 Actuator

7.1.2 PROCESS



NOTICE To avoid damage to the product, measure the friction between the tubes before installing the DMD500.

Proceed as follows to insert the DMD500 into the Height-Adjustable Column

1. Insert the two tubes of the Height-Adjustable Column into each other
2. Measure the gliding properties of the Tubes
3. Insert the Actuator into the Height-Adjustable Column (Fig. 4)

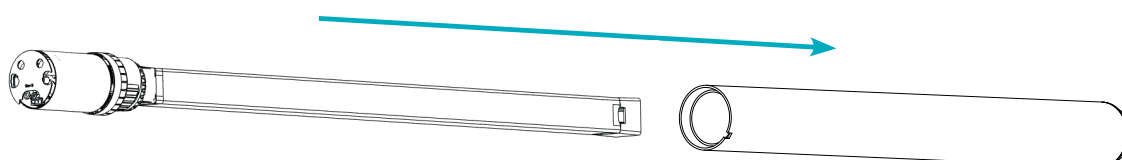


Fig. 4: Inserting the Actuator into the Height-Adjustable Column

7.2 STEP 2 - ATTACHING THE MOTOR END

The Motor End is connected to the Height-Adjustable Column with a specially-made Top Plate.

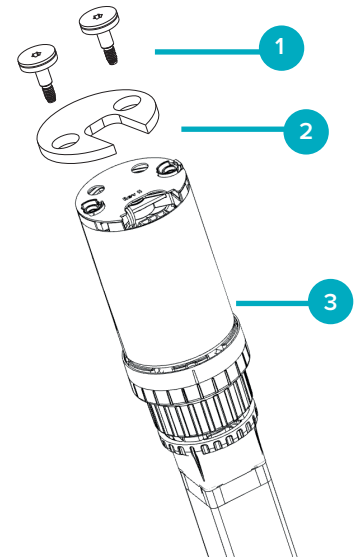
NOTICE

Attaching the Motor End incorrectly could damage the DMD500. The following guidelines apply during this stage of the assembly process. Failure to comply will void warranty claims.

- Do not lift the DMD500 by its cable
- Ensure the Top Plate has been designed according to LOGICDATA specifications.
- Do not mount the Top Plate without the Rubber Washers
- Only use the Screws provided by LOGICDATA to mount the Top Plate
- Use a Torque Screwdriver to ensure the Screws are tightened to the recommended torque of 2.5 - 3 Nm.

7.2.1 REQUIRED COMPONENTS

1	Mounting Screws and Rubber Washers (Ordered separately: Contact LOGICDATA)
2	Top Plate (developed by Reseller: contact LOGICDATA for specifications)
3	DMD500
Tool	Torque Screwdriver



INFO

LOGICDATA provides specifications for the Top Plate only on request. These include dimensions and tolerances, as well as notes on material selection and assembly.

7.2.2 PROCESS

To attach the Motor End of the DMD500:

1. Insert the Mounting Screws through the Top Plate into the holes at the top of the DMD500
2. Use the Torque Screwdriver to tighten the Screws to 2.5 - 3 Nm.

7.3 STEP 3 - ATTACHING THE SPINDLE END

The Spindle End is connected to the Height-Adjustable Column with a specially-made Bottom Plate.

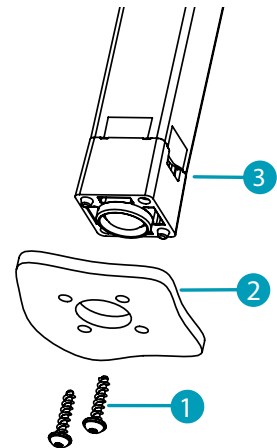
NOTICE

Attaching the Spindle End incorrectly could damage the DMD500. The following guidelines apply during this stage of the assembly process. Failure to comply will void warranty claims.

- Do not lift the DMD500 by its cable
- Ensure the Bottom Plate has been designed according to LOGICDATA specifications.
- Only use the Screws approved by LOGICDATA to mount the Bottom Plate

7.3.1 REQUIRED COMPONENTS

1	Mounting Screws (self-tapping screw developed by Reseller: contact LOGICDATA for specifications)
2	Bottom Plate (developed by Reseller: contact LOGICDATA for specifications)
3	Mounting Point Support Tube
Tool	Torque Screwdriver



INFO

LOGICDATA provides specifications for the Bottom Plate only on request. These include dimensions and tolerances, as well as notes on material selection and assembly.

7.3.2 PROCESS

To attach the Spindle End of the DMD500:

1. Insert the Mounting Screws through the Bottom Plate into the holes in the Mounting Point Support Tube
2. Use a Torque Screwdriver to tighten the Screws

7.3.3 COMPLETING ASSEMBLY

After the DMD500 is attached to the Height-Adjustable Column, you must connect the Actuator Cable to the System. Refer to the DYNAMIC MOTION System Manual for instructions on your chosen configuration.



8 ADDITIONAL INFORMATION

8.1 OPERATION

Instructions for operating the system can be found in the DYNAMIC MOTION System Manual.

8.2 SOFTWARE-DEPENDENT FUNCTIONS

A full list of Software-Dependent Functions can be found in the DYNAMIC MOTION System Manual.

8.3 DISASSEMBLY

To disassemble the DMD500, ensure that it has been disconnected from the Power Unit. Then, follow the assembly instructions in reverse order.

8.4 MAINTENANCE

The DMD500 is maintenance free for its entire service lifetime.



- ! WARNING Risk of death or serious injury through electric shocks and other hazards**
Operating the system using unauthorized spare or accessory parts may lead to death or serious injury through electric shocks and other hazards.
- Only use accessory parts produced or approved by LOGICDATA
 - Only use replacement parts produced or approved by LOGICDATA
 - Only allow Skilled Persons to perform repairs or install accessory parts
 - Contact customer services immediately if the system malfunctions
- The use of unauthorized spare or accessory parts also cause system damage. Warranty claims are void in this scenario.

8.4.1 REPLACING THE DMD500

Instructions for replacing the DMD500 can be found in the DYNAMIC MOTION System Manual.

8.5 TROUBLESHOOTING

A list of common problems and their solutions can be found in the DYNAMIC MOTION System Manual.

8.6 DISPOSAL



All products in the DM System are subject to the WEEE Directive 2012/19/EU.

- Dispose of all components separately from household waste. Use designated collection points or disposal companies authorized for this purpose



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
Email: 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
Email: office.na@logicdata.net



www.logicdata.net